

Chapter 1



Monomoy Lighthouse

The Purpose of and Need for Action

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Introduction

Monomoy National Wildlife Refuge (Monomoy NWR, refuge) stretches for 8 miles off the elbow of Cape Cod in the town of Chatham (Town), Barnstable County, Massachusetts. The refuge was established in 1944 as a sanctuary for birds with an emphasis on threatened, endangered, and migratory birds. Approximately 7,921 acres are managed as refuge including North Monomoy Island, South Monomoy Island, Minimoy Island, 40 acres on Morris Island where the headquarters and visitor contact station are located, and all waters within the Declaration of Taking (map 1.1 and map 1.2). Nearly half (47 percent) the refuge, including most of refuge land above the mean low water (MLW) mark, is designated as a wilderness area, currently the only wilderness area in southern New England (map 1.3). The refuge is also designated as a Western Hemisphere Shorebird Reserve Network (WHSRN) regional site, an Important Bird Area (IBA), and a Marine Protected Area (MPA). The decommissioned Monomoy Point Lighthouse and keeper's house on South Monomoy Island are listed on the National Register of Historic Places (NRHP).

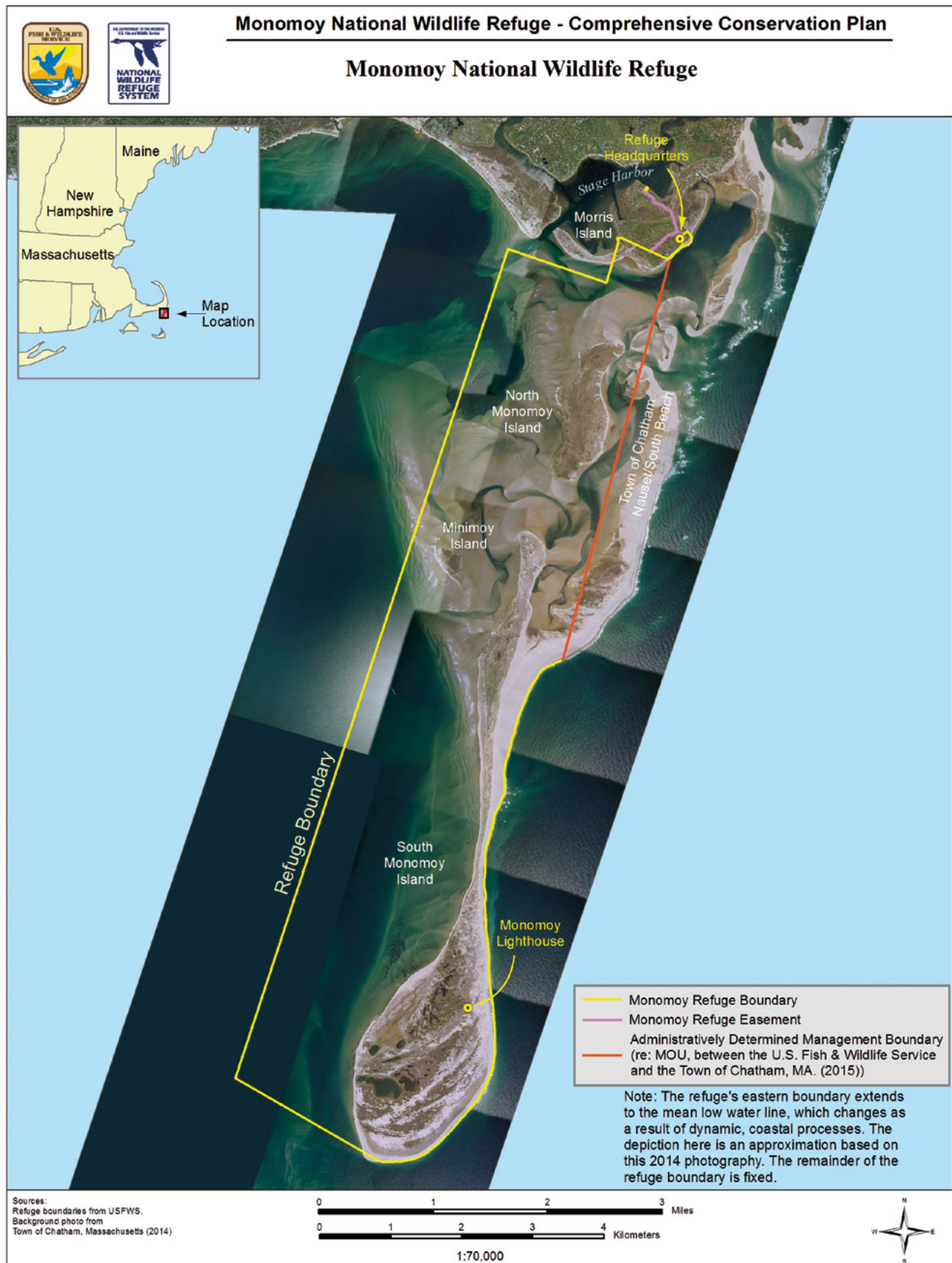
The refuge boundary includes those areas above the MLW line on the eastern boundary and all lands and waters to the Declaration of Taking on the western boundary (map 1.1). Years of accretion on the eastern shoreline of South Monomoy Island, where Nauset and South Beach eventually connected in 2006 and where a breach subsequently occurred in 2013 after frequent overwashing, has altered the eastern boundary of the refuge. As the precise location of the eastern boundary is uncertain, we entered into a Memorandum of Understanding (MOU) with the Town in June 2015 to administratively determine a management boundary on Nauset/South Beach. We describe this management boundary in chapter 2.

Monomoy NWR is one of eight refuges that make up the Eastern Massachusetts NWR Complex, which is headquartered in Sudbury, Massachusetts (map 1.4). The barrier islands are part of a dynamic coastal zone, characterized by an ever-changing landscape. Salt and freshwater marshes, dunes, and ponds provide nesting, resting, and feeding habitat for migratory birds.

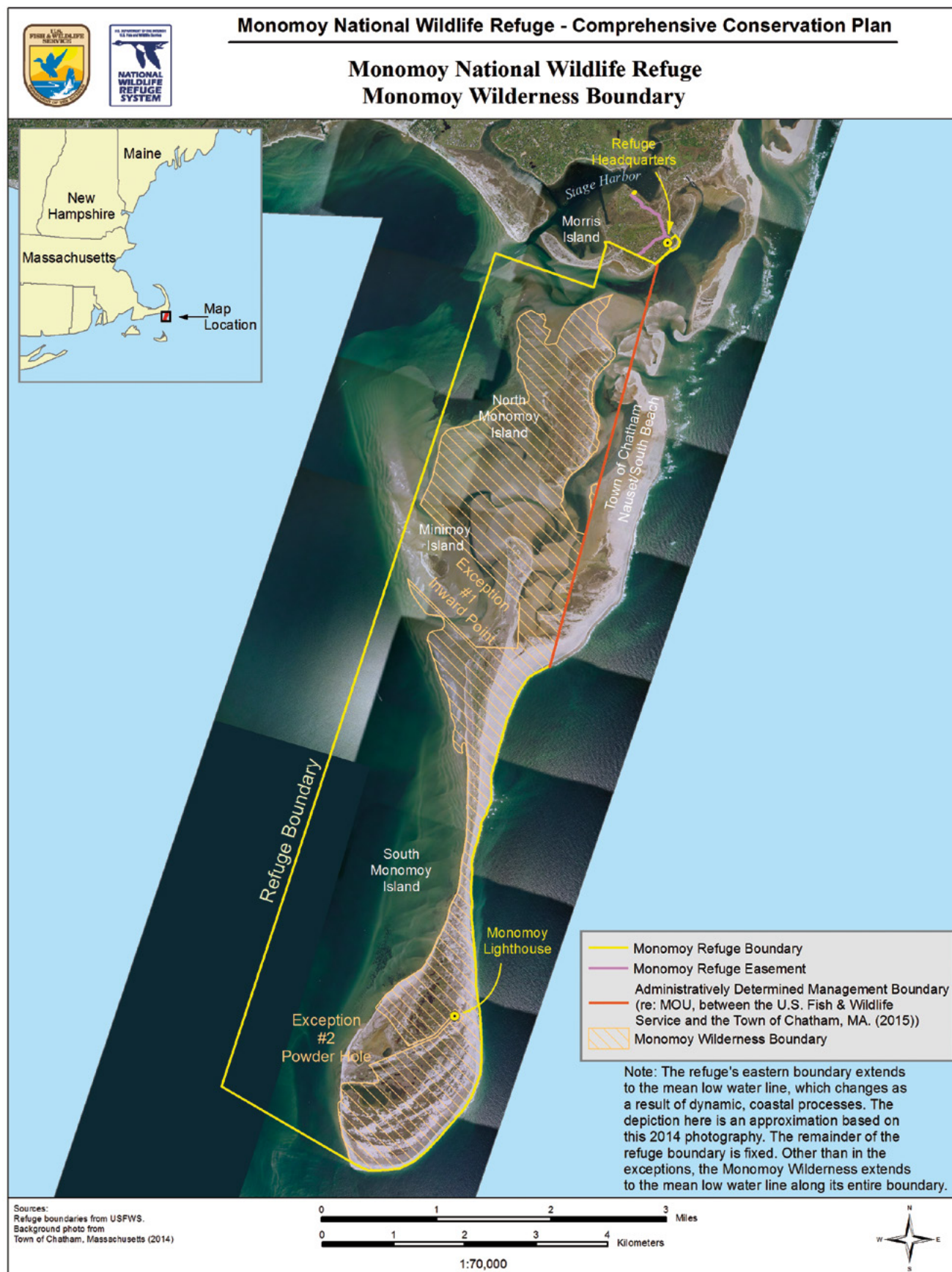
This final Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for Monomoy NWR combines two documents required by Federal law:

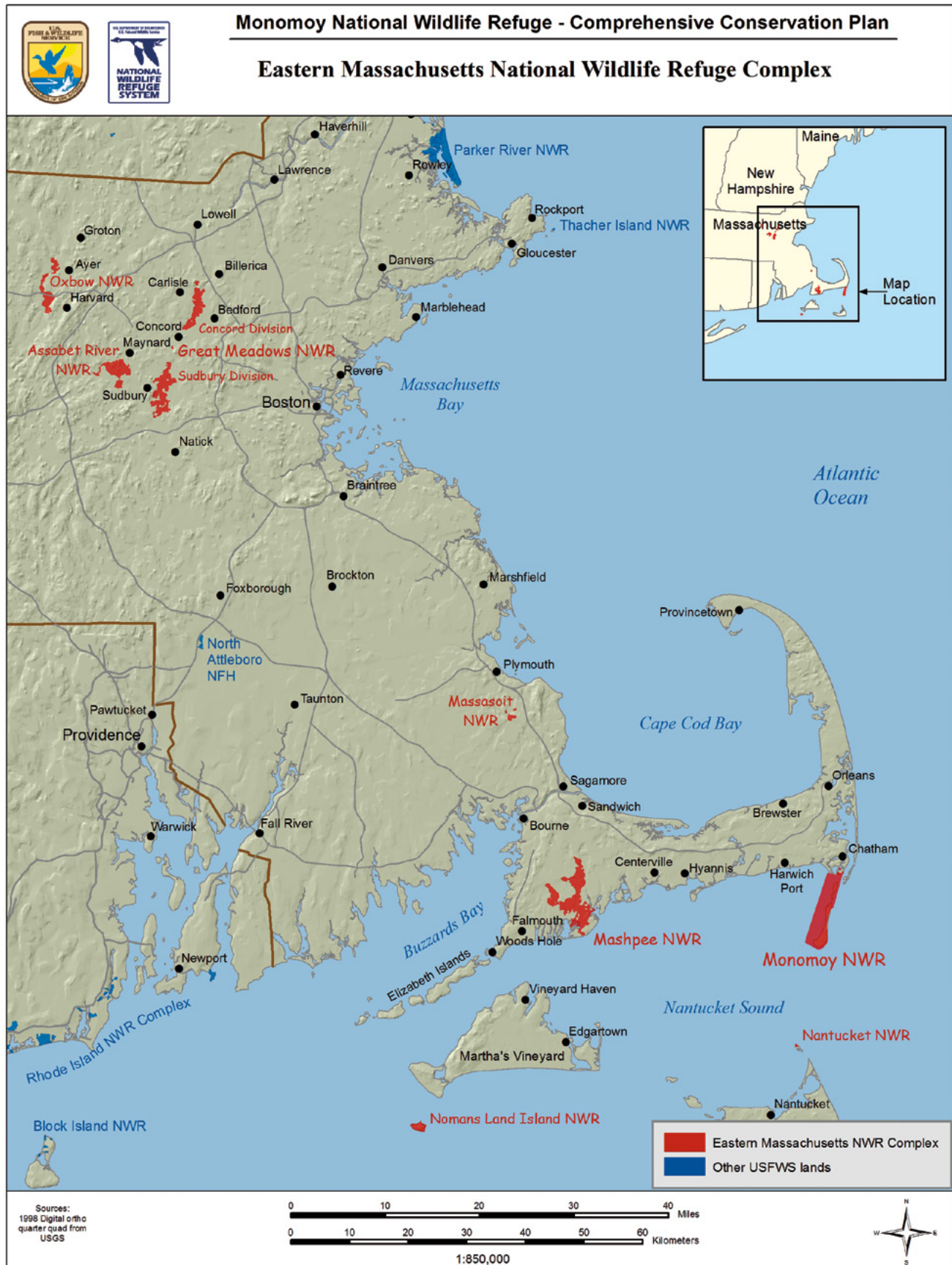
- A CCP, required by the National Wildlife Refuge System Administration Act of 1996 (16 U.S.C. § 668dd-668ee; Administration Act), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law (PL) 105-57; 111 Stat. 1253; Refuge Improvement Act).
- An EIS, required by the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. § 4321 et seq.; 83 Stat. 852), as amended.

Comments received on the draft CCP/EIS, and our responses to them, can be found in appendix K. In appendix K, we also summarize all significant changes and modifications from the draft CCP/EIS to this final CCP/EIS. Our Northeast Regional Director will select a preferred alternative based on the U.S. Fish and Wildlife Service (Service, USFWS) and National Wildlife Refuge System (Refuge System) missions, the purposes for which the refuge was established, other legal mandates, and public and partner comments on the CCP/EIS. The selection among alternatives is based on the degree to which an alternative meets the purpose and need for this action, as defined on pages in this chapter. The final decision will identify the desired combination of species protection, habitat management, public use and access, and administration for the refuge. A Record of Decision (ROD) will present and explain the decision, certify that we have met









agency compliance requirements, and that implementing the CCP will achieve the purposes of the refuge and help fulfill the Refuge System mission. Once our Northeast Regional Director has signed the ROD and we have completed the CCP for the refuge, we will notify the public in the *Federal Register*, and implementation can begin. This final CCP will guide refuge management decisions over the next 15 years. We will also use it to promote understanding and support for refuge management among Massachusetts State agencies, our conservation partners, local communities, and the public.

This final CCP/EIS has 6 chapters and 12 appendixes. The first chapter sets the stage for the subsequent chapters. Specifically, Chapter 1, Purpose of, and Need for, Action:

- Explains the purpose of, and need for, a CCP/EIS for the refuge.
- Defines our planning analysis area.
- Presents the Service mission, policies, and mandates affecting the development of the plan.
- Identifies other conservation plans and initiatives we used as references.
- Lists the purposes for which the refuge was established and its land acquisition history.
- Clarifies the vision and goals that drive refuge management.
- Describes refuge operational (or “step-down”) plans.
- Describes our planning process and its compliance with NEPA regulations.
- Identifies public issues or concerns that surfaced during plan development.

Chapter 2, Affected Environment, describes the physical, biological, cultural, and socioeconomic environments of the refuge.

Chapter 3, Alternatives Considered, Including the Service-preferred Alternative, describes and evaluates three management alternatives, each with different

strategies for meeting refuge goals and objectives and addressing agency, partner, and public issues. It also describes the activities that we expect to occur under each alternative. The range of alternatives includes continuing our present management of the refuge, enhanced management of habitat, wildlife and visitor use, and less frequent and intensive management with a focus on natural processes and wilderness stewardship.

Chapter 4, Environmental Consequences, evaluates the effects on the environment from implementing each of the three management alternatives. It predicts the foreseeable benefits and consequences affecting the physical, biological, cultural, and socioeconomic environments described in chapter 2.

Chapter 5, Consultation and Coordination with Others, summarizes how the Service involved the public and its partners in the planning process;

Nesting common tern



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their involvement is vital for the future management of this refuge and all national wildlife refuges.

Chapter 6, List of Preparers, credits Service and non-Service contributors to the draft and final CCP/EIS.

Twelve appendixes, a glossary with acronyms, and a list of references provide additional documentation to support the developed narratives and analysis in the plan.

The Purpose of, and Need for, Action

We propose a CCP for the refuge that, in the Service's best professional judgment, best achieves the purposes, goals, and vision of the refuge and contributes to the Refuge System's mission, adheres to the Service's policies and other mandates, addresses identified issues of significance, and incorporates sound principles of fish and wildlife science.

As NEPA requires, this final CCP/EIS evaluates a reasonable range of management alternatives and describes their foreseeable impacts on the socioeconomic, physical, cultural, and biological environments in the project area. Each alternative was designed with the potential to be fully developed into a final CCP.

The *need* for a CCP is manifold. First, the Refuge Improvement Act requires us to write a CCP for every national wildlife refuge to help fulfill the mission of the Refuge System. New policies to implement the strategic direction in the Refuge Improvement Act have developed since the refuge was established. The *purpose* of this CCP is to provide strategic management direction for the next 15 years by:

- Providing a clear statement of desired future conditions for habitat, wildlife, visitor services, staffing, and facilities.
- Providing state agencies, refuge neighbors, visitors, and partners with a clear understanding for the reasons for management actions.
- Ensuring refuge management reflects the policies and goals of the Refuge System and legal mandates.
- Ensuring the compatibility of current and future public use.
- Providing long-term continuity and direction for refuge management.
- Providing direction for staffing, operations, maintenance, and annual budget requests.

Second, Monomoy NWR has an environmental assessment/master plan (USFWS 1988) that is more than 25 years old and lacks an updated plan to formally establish and ensure strategic management of the refuge. The refuge's 1978 wilderness plan is also outdated. Furthermore, the refuge environment continues to change. For example, erosion has shifted the refuge boundary line; pressures for public access have continued to grow; and new ecosystem and species conservation plans bearing directly on refuge management have been identified.

Third, the refuge has identified strong partnerships vital for its continued success, and the vision for the refuge must be conveyed to those partners and the public. A vision statement, goals, objectives, and management strategies are all necessary for successful refuge management. The CCP planning process incorporates input from the natural resource agencies of Massachusetts, affected communities, individuals and organizations, our partners and the public. Public

and partner involvement throughout the planning process also helps us resolve various management issues and public concerns.

These reasons underscore the need for the strategic direction a CCP provides. At its completion, the CCP will be reviewed, evaluated, and subsequently updated at least every 15 years in accordance with the Service and Refuge System policies.

The Service and the Refuge System: Policies and Mandates Guiding Planning

The U.S. Fish and Wildlife Service and its Mission

The Service administers the Refuge System. The Service is an agency within the U.S. Department of the Interior (Department). The Service's mission is as follows:

“Working with others, to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.”

Congress entrusts natural resources to the Service for conservation and protection. These include migratory birds, federally listed endangered or threatened species, interjurisdictional fish, wetlands, certain marine mammals, and national wildlife refuges. The Service also enforces Federal wildlife laws and international treaties on importing and exporting wildlife, assists states with their fish and wildlife programs, and helps other countries develop conservation programs.

The Service Manual, available online at: <http://www.fws.gov/policy/manuals> (USFWS 2011a; accessed December 2011) contains the standing and continuing directives on implementing our authorities, responsibilities, and activities. The 600 series of the Service Manual (FW) addresses land use management and sections 601 to 610 specifically address management of national wildlife refuges and wilderness. We publish special directives that affect the rights of citizens or the authorities of other agencies separately in the Code of Federal Regulations (CFR). Most of the current regulations that pertain to the Service are issued in 50 CFR parts 1 to 99; available online at: <https://www.law.cornell.edu/cfr/text/50>; accessed October 2015.

The National Wildlife Refuge System and its Mission and Policies

The Refuge System is the world's largest collection of lands and waters set aside specifically for the conservation of wildlife and the protection of ecosystems. The Refuge System began in 1903 when President Theodore Roosevelt designated Pelican Island, a pelican and heron rookery in Florida, as a bird sanctuary. Today, over 560 refuges are part of the Refuge System. They encompass more than 150 million acres of lands and waters in all 50 states and several island territories. Each year, nearly 41 million visitors hunt, fish, observe and photograph wildlife, or participate in environmental education and interpretive activities on refuges across the nation.

In 1997, President William Clinton signed into law the Refuge Improvement Act (Public Law 105-57). This act establishes a unifying mission for the Refuge System and a new process for determining the compatibility of public uses on refuges, and requires us to prepare refuge CCPs. The mission of the Refuge System is:

“To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” —Refuge Improvement Act

The Refuge System Manual provides a central reference for current policy governing the operation and management of the Refuge System that the Service Manual does not cover, including technical information on implementing refuge policies and guidelines on enforcing laws. This manual can be reviewed at refuge headquarters.

The pertinent policies from the Service Manual are summarized in the following paragraphs.

Policy on the National Wildlife Refuge System Mission, Goals, and Purposes

This policy (601 FW 1) sets forth the Refuge System mission noted above, how it relates to the Service mission, and explains the relationship of the Refuge System mission and goals, and the purpose(s) of each unit in the Refuge System. In addition, it identifies the following Refuge System goals:

- Conserve a diversity of fish, wildlife, and plants.
- Develop and maintain a network of habitats.
- Conserve those ecosystems, plant communities, and wetlands that are unique within the United States.
- Provide and enhance opportunities to participate in compatible, wildlife-dependent recreation.
- Help to foster public understanding and appreciation of the diversity of fish, wildlife, and plants and their habitats.

This policy also establishes management priorities for the Refuge System:

- Conserve fish, wildlife, and plants and their habitats.
- Facilitate compatible, wildlife-dependent recreational uses.
- Consider other appropriate and compatible uses.

Policy on Refuge System Planning

This policy (602 FW 1, 2, 3) establishes the requirements and guidance for Refuge System planning, including CCPs and step-down management plans. It states that all refuges will be managed in accordance with an approved CCP that, when implemented, will help:

- Achieve refuge purposes.
- Fulfill the Refuge System mission.
- Maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System.
- Achieve the goals of the National Wilderness Preservation System (NWPS) and the National Wild and Scenic Rivers System.
- Conform to other applicable laws, mandates, and policies.

This planning policy provides step-by-step directions and identifies the minimum requirements for developing all CCPs, including reviewing any existing special designation areas such as wilderness and wild and scenic rivers, specifically addressing the potential for any new special designations, conducting a

wilderness review, and incorporating a summary of that review into each CCP (602 FW 3).

Policy on Appropriate Refuge Uses

Federal law and Service policy provide the direction and planning framework for protecting the Refuge System from inappropriate, incompatible, or harmful human activities and ensuring that visitors can enjoy its lands and waters. This policy (603 FW 1) provides a national framework for determining appropriate refuge uses in an effort to prevent or eliminate those uses that should not occur in the Refuge System. It describes the initial decision process the refuge manager follows when considering whether or not to allow a proposed use on a refuge. An appropriate use must meet at least one of the following four conditions:

- (1) The use is a wildlife-dependent recreational use as identified in the Refuge Improvement Act.
- (2) The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or objectives described in a refuge management plan approved after October 9, 1997.
- (3) The use involves the taking of fish or wildlife under state regulations.
- (4) The use has been found to be appropriate after concluding a specified findings process using 10 specific criteria included in the policy.

You may view this policy on the Web site: <http://www.fws.gov/policy/603fw1.html> (accessed July 2011).

Policy on Compatibility

This policy (603 FW 2) complements the appropriate use policy. The refuge manager must first find that a use is appropriate before undertaking a compatibility review of that use. If the proposed use is not appropriate, the refuge manager will not allow the use and will not prepare a compatibility determination (CD).

The direction in 603 FW 2 provides guidance on how to prepare a CD. Other guidance in that chapter is as follows:

- The Refuge Improvement Act and its regulations require an affirmative finding by the refuge manager on the compatibility of a public use before we allow it on a national wildlife refuge.
- A compatible use is one, “that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge.”

Common tern



Peter Paton 2013

- The act defines six wildlife-dependent uses that are to receive enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, and environmental education and interpretation.
- The refuge manager may authorize those priority uses on a refuge when they are compatible and consistent with public safety.
- When the refuge manager publishes a CD, it will stipulate the required maximum reevaluation dates: 15 years for wildlife-dependent recreational uses or 10 years for other uses.

- The refuge manager may reevaluate the compatibility of a use at any time, for example, sooner than its mandatory date or even before completion of the CCP process, if new information reveals unacceptable impacts or incompatibility with refuge purposes (602 FW 2.11, 2.12).
- The refuge manager may allow or deny any use, even one that is compatible, based on other considerations such as public safety, policy, or available funding.

You may view this policy and its regulations, including a description of the process and requirements for conducting compatibility reviews, on the Web site: <http://www.fws.gov/policy/603fw2.html> (accessed July 2011).

**Policy on Maintaining
Biological Integrity,
Diversity, and
Environmental Health**

This policy (601 FW 3) provides guidance on maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge System, including the protection of a broad spectrum of fish, wildlife, and habitat resources in refuge ecosystems. It provides refuge managers with a process for evaluating the best management direction to prevent the additional degradation of environmental conditions and restore lost or severely degraded environmental components. It also provides guidelines for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem.

**Policy on Wildlife-
Dependent Recreation**

This policy (605 FW 1) presents specific guidance about wildlife-dependent recreation programs within the Refuge System. We develop our wildlife-dependent recreation programs on refuges in consultation with state fish and wildlife agencies and stakeholder input based on the following specific criteria:

- (1) Promotes safety of participants, other visitors, and facilities.
- (2) Promotes compliance with applicable laws and regulations and responsible behavior.
- (3) Minimizes or eliminates conflict with fish and wildlife population or habitat goals or objectives in an approved plan.
- (4) Minimizes or eliminates conflicts with other compatible, wildlife-dependent recreation.
- (5) Minimizes conflicts with neighboring landowners.
- (6) Promotes accessibility and availability to a broad spectrum of the American people.
- (7) Promotes resource stewardship and conservation.
- (8) Promotes public understanding and increases public appreciation of America's natural resources and our role in managing and conserving these resources.
- (9) Provides reliable/reasonable opportunities to experience wildlife.
- (10) Uses facilities that are accessible to people and blend into the natural setting.
- (11) Uses visitor satisfaction to help define and evaluate programs.

You may view this policy on the Web site: <http://www.fws.gov/policy/605fw1.html> (accessed July 2011).

Policy on Wilderness Stewardship

This policy (610 FW 1-3) provides guidance for managing Refuge System lands designated as wilderness under the Wilderness Act of 1964 (16 U.S.C. § 1131-1136; PL 88-577). The Wilderness Act created the NWPS that protects federally owned areas designated by Congress as wilderness areas. The act directs each agency administering designated wilderness to preserve the wilderness character of areas within the NWPS, and to administer the NWPS for the use and enjoyment of the American people in a way that will leave those areas unimpaired for future use and enjoyment as wilderness. Our wilderness stewardship policy also provides guidance on development of wilderness stewardship plans and explains when generally prohibited uses may be necessary to employ for wilderness preservation or fulfilling the refuge purpose.

Service planning policy requires that we evaluate the potential for wilderness on refuge lands, as appropriate, during the CCP planning process (610 FW 1). Section 610 FW 4 of our Wilderness Stewardship Policy provides guidance on the wilderness review process. Sections 610 FW 1-3 provide management guidance for designated wilderness areas. You may view this policy on the Web site: <http://www.fws.gov/policy/610fw1.html> (accessed July 2011).

The Monomoy Wilderness Stewardship Plan will be based upon the Arthur Carhart National Wilderness Training Center's *Four Cornerstones of Wilderness Stewardship* (<http://www.wilderness.net/fundamentals>; accessed January 2013) and the widely accepted 13 Wilderness Stewardship Principles by Hendee and Dawson (2002):

Four Cornerstones of Wilderness Stewardship:

- (1) Manage wilderness as a whole.
- (2) Preserve wildness and natural conditions.
- (3) Protect wilderness benefits.
- (4) Provide and use the minimum necessary.

Wilderness Stewardship Principles:

- (1) Manage wilderness as the pristine extreme of the land modification spectrum.
- (2) Manage wilderness comprehensively, not as separate parts.
- (3) Manage wilderness, and sites within, under a non-degradation concept.
- (4) Manage human influences, a key to wilderness protection.
- (5) Manage wilderness to produce human values and benefits.
- (6) Favor wilderness-dependent activities.
- (7) Guide management with written plans that state objectives for specific areas.
- (8) Set carrying capacities as necessary to prevent unnatural change.
- (9) Focus management on threatened sites and damaging activities.
- (10) Apply only minimum regulations and tools necessary to achieve objectives.
- (11) Involve the public as a key to acceptance and success of wilderness management.

- (12) Monitor conditions and experience opportunities for long-term stewardship.
- (13) Manage wilderness in relation to management of adjacent lands.

Fulfilling the Promise and Conserving the Future: Wildlife Refuges and the Next Generation

In the summer of 2011, the Service held a vision conference—an opportunity for creating a new strategic mission for the Refuge System that will guide refuge management through the next decade. The Service now has a great opportunity to improve upon its planning legacy by incorporating a new vision and set of conservation strategies in the next generation of CCPs. This new vision requires that we keep several principles in mind. First, the new plans must integrate the conservation needs of the larger landscape and ensure that we function as a system. Second, they must be flexible enough to address new environmental challenges and contribute to the ecological resiliency of fish and wildlife populations and their habitats. Third, the plans must be written so those who read them will clearly understand what is expected and be inspired to take action to become a part of our conservation legacy. Fourth, they should explore ways to increase recreational opportunities, working closely with regional recreation, trails, and transportation planners to leverage resources that make refuges more accessible to the public.

The 1999 report *Fulfilling the Promise: The National Wildlife Refuge System; Visions for Wildlife, Habitat, People and Leadership* (USFWS 1999a) culminated a year-long process by teams of Service employees to evaluate the Refuge System nationwide. The report contained 42 recommendations packaged with three vision statements dealing with wildlife and habitat, people, and leadership. *Conserving the Future: Wildlife Refuges and the Next Generation* (USFWS 2011b) is a vision designed to guide the management of the Refuge System during the next decade and beyond. This document contains 23 recommendations on themes such as the relevance of the Refuge System to a changing America, the impact of climate change, the need for conservation at a landscape scale, the necessity of partnership and collaboration, and the absolute importance of scientific excellence. These recommendations have provided much of the guidance for developing this final CCP/EIS.

Native American Policy

The Service developed and adopted a Native American Policy in 1994. The Service's intent in creating this policy is to:

“...help accomplish its mission and concurrently to participate in fulfilling the Federal Government's and the Department's trust responsibilities to assist Native Americans in protecting, conserving, and utilizing their reserved, treaty guaranteed, or statutorily identified trust assets. This policy is consistent with Federal policy supporting Native American government self-determination. The Service has a long history of working with Native American governments in managing fish and wildlife resources. These relationships will be expanded, within the Service's available resources, by improving communication and cooperation, providing fish and wildlife management expertise, training and assistance, and respecting and utilizing the traditional knowledge, experience, and perspectives of Native Americans in managing fish and wildlife resources.”

The Native American Policy of the Service (1994) is outlined as follows:

- The Service recognizes the sovereign status of Native American governments.
- There is a unique and distinctive political relationship between the United States and Native American governments...that differentiates Native American governments from other interests and constituencies.
- The Service will maintain government-to-government relationships with Native American governments.

- The Service recognizes and supports the rights of Native Americans to utilize fish and wildlife resources on non-reservation lands where there is a legal basis for such use.
- While the Service retains primary authority to manage Service lands, affected Native American governments will be afforded opportunities to participate in the Service's decision-making process for Service lands.
- The Service will consult with Native American governments on fish and wildlife resource matters of mutual interest and concern to the extent allowed by the law. The goal is to keep Native American governments involved in such matters from initiation to completion of related Service activities.
- The Service will assist Native American governments in identifying Federal and non-Federal funding sources that are available to them for fish and wildlife resource management activities.
- The Service will involve Native American governments in all Service actions that may affect their cultural or religious interests, including archaeological sites.
- The Service will provide Native Americans reasonable access to Service managed or controlled lands and waters for exercising ceremonial, medicinal, and traditional activities recognized by the Service and by Native American governments. The Service will permit these uses if the activities are consistent with treaties, judicial mandates, or Federal and Tribal law and are compatible with the purposes for which the lands are managed.
- The Service will encourage the use of cooperative law enforcement as an integral component of Native American, Federal, and state agreements relating to fish and wildlife resources.
- The Service will provide Native American governments with the same access to fish and wildlife resource training programs as provided to other government agencies.
- The Service's basic and refresher fish and wildlife law enforcement training courses that are provided to other governmental agencies will also be available to Native Americans.
- The Service will facilitate the education and development of Native American fish and wildlife professionals by providing innovative educational programs and on-the-job training opportunities. The Service will establish partnerships and cooperative relationships with Native American educational institutions. The Service will also ensure that Native American schools and children are included in its environmental education outreach programs.
- The Service will actively encourage qualified Native Americans to apply for jobs with the Service, especially where the Service is managing fish and wildlife resources where Native Americans have management authority or cultural or religious interests.
- The Service will work with Native Americans to educate the public about Native American treaty and federally reserved rights, laws, regulations, and programs related to fish and wildlife.

You may view this policy on the Web site: http://www.fws.gov/northeast/nativeamerican/imp_plan.html (accessed July 2011).

On December 1, 2011, the Secretary of the Interior issued a policy on consultation with Indian Tribes, requiring Department agencies to strengthen their government-to-government relationship with Indian Tribes. The policy reflects a commitment to consultation, recognition of Indian Tribes' right to self-governance, and Tribal sovereignty.

Other Mandates

Although Service and Refuge System policies and the purpose(s) of each refuge provide the foundation for its management, other Federal laws, executive orders, treaties, interstate compacts, and regulations on conserving and protecting natural and cultural resources also affect how we manage refuges. Federal laws require the Service to identify and preserve its important historic structures, archaeological sites, and artifacts. NEPA mandates our consideration of cultural resources in planning Federal actions. The Refuge Improvement Act requires the CCP for each refuge to identify Archaeological and cultural values. All Service policies can be found at: <http://www.fws.gov/refuges/policy> (accessed May 2012).

The following summaries were taken, in most cases, directly from our *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service*, located at: <http://www.fws.gov/laws/Lawsdigest.html> (accessed July 2011), and from our Service Tribal Consultation Guide (Monette et al 2013).

The Antiquities Act of 1906, as amended (16 U.S.C. § 431-433; 34 Stat. 225; PL 59-209) is the earliest and most basic legislation for protecting cultural resources on Federal lands. It provides misdemeanor-level criminal penalties to control unauthorized

uses. Appropriate scientific uses may be authorized through permits, and materials removed under a permit must be permanently preserved in a public museum. The 1906 act is broader in scope than the 1979 Archaeological Resources Protection Act (ARPA), which partially supersedes it. Uniform regulations in 43 CFR Part 3 implement the act.

The Historic Sites, Buildings, and Antiquities Act (16 U.S.C. § 461-462, 464-467; 49 Stat. 666) of August 21, 1935, popularly known as the Historic Sites Act, as amended by PL 89-249, approved October 9, 1965, (79 Stat. 971), declares it a national policy for the first time to preserve historic sites and objects of national significance, including those located on refuges. It provides authorization to the Secretary of the Interior through the National Park Service (NPS) to conduct archaeological surveys, and to designate, acquire, administer, protect, and purchase properties of historic significance. National Historic and Natural Landmarks are designated under the authority of this act, and eventually incorporated into the National Historic Register under the 1966 National Historic Preservation Act (NHPA).

The Archaeological and Historic Preservation Act (16 U.S.C. § 469-469c; PL 86-523,) approved June 27, 1960, (74 Stat. 220) as amended by Public Law 93-291, approved May 24, 1974, (88 Stat. 174) carries out the policy



Lighthouse

USFWS

established by the Historic Sites Act (see above). It directs Federal agencies to notify the Secretary of the Interior whenever they find that any alteration of terrain caused by a Federal, or federally assisted, licensed or permitted project may cause the loss or destruction of significant scientific, prehistoric, or archaeological data. This expands the number of Federal agencies responsible for carrying out this law. The act authorizes the use of appropriated, donated, or transferred funds for the recovery, protection, and preservation of those data.

The NHPA of 1966 (16 U.S.C. § 470–470b, 470c–470n), PL 89–665, approved October 15, 1966, (80 Stat. 915) and repeatedly amended, provides for the preservation of significant historical properties (buildings, objects, and sites) through a grant-in-aid program to the states. It establishes a NRHP and a program of matching grants under the existing National Trust for Historic Preservation (16 U.S.C. § 468–468d). This act establishes an Advisory Council on Historic Preservation, which became a permanent, independent agency in PL 94-422, approved September 28, 1976, (90 Stat. 1319). The act created the Historic Preservation Fund. It directs Federal agencies, and any state, local, or private entity associated with a Federal undertaking, to conduct a Section 106 review, or to identify and assess the effects of their actions on items or sites listed or eligible for listing on the National Register. Most significantly, this act established that archaeological preservation was an important and relevant component at all levels of modern society, and it enabled the Federal Government to facilitate and encourage archaeological preservation, programs, and activities in the state, local, and private sectors.

The NHPA also charges Federal agencies with locating, evaluating, and nominating sites on their land to the National Register of Historic Places. An inventory of known archaeological sites and historic structures is maintained in the Northeast Regional Office and file copies of the sites at each refuge. The Northeast regional historic preservation officer in Hadley, Massachusetts, oversees compliance with the NHPA and consultations with State Historic Preservation Offices (SHPOs).

The ARPA (16 U.S.C. § 470aa–470ll; PL 96–95) approved October 31, 1979, (93 Stat. 721), largely supplanted the resource protection provisions of the Antiquities Act of 1906 for archaeological items. ARPA establishes detailed requirements for issuing permits for any excavation for, or removal of, archaeological resources from Federal or Native American lands. It also provides detailed descriptions of prohibited actions, thereby strengthening enforcement capabilities. It establishes more severe civil and criminal penalties for the unauthorized excavation, removal, or damage of those resources; for any trafficking in those removed from Federal or Native American land in violation of any provision of Federal law; and for interstate and foreign commerce in such resources acquired, transported, or received in violation of any state or local law.

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended (PL 101-601; 104 Stat. 3048; 25 U.S.C. § 3001, et seq.) establishes rights of American Indian Tribes and Native Hawaiian organizations to claim ownership of certain cultural items, including human remains, funerary objects, sacred objects, and objects of cultural patrimony, held or controlled by Federal agencies and museums that receive Federal funds. It requires agencies and museums to identify holdings of such remains and objects, and to work with appropriate Native Americans toward their repatriation. Permits for the excavation and/or removal of cultural items protected by the act require Native American consultation, as do discoveries of cultural items made during Federal land use activities. The Secretary of the Interior's implementing regulations are at 43 CFR Part 10. In the case that human remains are discovered on the refuge,

NAGPRA establishes a procedural framework to follow, and this process may also be coordinated with the Commonwealth of Massachusetts and its laws and procedural framework as necessary.

The Service also owns and cares for museum properties. The most common are archaeological collections, art, zoological and botanical collections, historical photographs, and historic objects. Each refuge maintains an inventory of its museum property. The Northeast regional museum property coordinator in Hadley, Massachusetts, guides the refuges in caring for that property, and helps the refuge comply with NAGPRA and Federal regulations governing Federal archaeological collections. This program ensures that Service collections will continue to be available to the public for learning and research.

The Environmental Justice program, established by Presidential Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), requires Federal agencies, including the Service, to ensure that all environmental policies and the disposal of toxic waste do not adversely impact minority and low-income communities, including Tribes. The common concern is that these communities are exposed to unfair levels of environmental risk arising from multiple sources, often coupled with inadequate government response.

Chapter 4, Environmental Consequences, evaluates this plan's compliance with the acts noted above, and with the Clean Water Act of 1977, as amended (33 U.S.C. § 1251, et seq.; PL 107-303), the Clean Air Act of 1970, as amended (42 U.S.C. § 7401 et seq.), and the Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531-1544), as amended. The refuge designed this final CCP/EIS to comply with NEPA and the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508).

Conservation Plans and Initiatives Guiding Our Planning

Strategic Habitat Conservation

The Service has a goal of establishing and building capacity for science-driven landscape conservation on a continental scale. Our approach, known as Strategic Habitat Conservation (SHC), applies adaptive resource management principles to the entire range of species, groups of species, and natural communities of plants and animals. This approach is founded on an adaptive, iterative process of biological planning, conservation design, conservation delivery, monitoring, and research. The Service is refining this approach to conservation in a national geographic framework. We will work with partners to develop national strategies to help wildlife, with a focus on declining species populations, adapt in a climate-changed world. This geographic frame of reference will also allow us to more precisely explain to partners, Congress, and the American public why, where, and how we target resources for landscape-scale conservation, and how our efforts connect to a greater whole.

North Atlantic Landscape Conservation Cooperative (LCC)

The North Atlantic LCC is a conservation science-management partnership, consisting of Federal agencies, states, Tribes, universities, and private organizations, focused on collaboratively developing science-based recommendations and decision-support tools to implement on-the-ground conservation. The North Atlantic LCC covers land in 12 of the 13 Northeast states and the District of Columbia. The goal of the North Atlantic LCC is for the Service to work with all conservation partners to sustain landscapes capable of maintaining abundant, diverse, and healthy populations of fish, wildlife, and plants. The North Atlantic LCC will integrate its work with a U.S. Geological

Survey regional climate change impact response center to conduct studies and develop landscape-scale conservation plans. It will also address impacts to ecosystems beyond those of climate change, such as potential extirpation of wildlife populations from disease or habitat loss.

Climate Change

Secretarial Order(SO) 3289, issued on March 11, 2009, establishes a commitment by the Department to address the challenges posed by climate change to Tribes and to the cultural and natural resources the Department oversees. This order promotes the development and use of renewable energy on public lands, adapting land management strategies to mitigate the effects of climate change, initiating multi-agency coalitions to address issues on a landscape level, and incorporating climate change priorities in long-term planning. These and other actions will be overseen by a climate change response council, which is responsible for creating a Department-wide climate change strategy.

As the principal agency responsible for the conservation of the Nation's fish, wildlife, and plant resources, the Service has drafted a Climate Change Strategic Plan and a 5-Year Action Plan to jump-start implementation of the strategic plan. These plans provide a framework in which the Service works with others on a landscape scale to promote the persistence of native species, habitats, and natural communities. Specifically, these plans are based on three overall strategies: adaptation (management actions the Service will take to reduce climate change impacts on wildlife and habitats), mitigation (consuming less energy and using fewer materials in administering land and resources), and engagement (outreach to the larger community to build knowledge and share resources to better understand climate change impacts). Both plans can be found at: <http://www.fws.gov/home/climatechange/response.html> (accessed July 2013). The Service was also a member of an intergovernmental working group of Federal, state, and Tribal agency representatives who developed the new National Fish, Wildlife, and Plants Climate Adaptation Strategy. This strategy can be viewed at: <http://www.wildlifeadaptationstrategy.gov> (accessed July 2013).

Birds of Conservation Concern (2008 Report)

The Service developed this report (USFWS 2008a) in consultation with leaders of ongoing bird conservation initiatives and such partnerships as Partners In Flight (PIF), the North American Waterfowl Management Plan (NAWMP) and Joint Ventures, the North American Waterbird Conservation Plan (NAWCP), and the U.S. Shorebird Conservation Plan. It fulfills the mandate of the 1988 amendment to the Fish and Wildlife Conservation Act of 1980 (100 PL 100–653, Title VIII), requiring the Secretary of the Interior, through the Service, to “identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the ESA of 1973.”

White winged scoter



Bill Thompson/USFWS

The report contains 46 lists that identify bird species of conservation concern at national, regional, and landscape scales. It includes a principal national list, regional lists corresponding to the regional administrative units of the Service, and species lists for each of the 35 bird conservation regions (BCRs) designated by the North American Bird Conservation Initiative (NABCI) in the United States, and two additional BCRs we created to fulfill the purpose of the report that include island “territories” of the United States. NABCI defined those BCRs as ecologically based units in a framework for planning, implementing, and evaluating bird conservation.

North American Waterfowl Management Plan [updated 2012] and Atlantic Coast Joint Venture Implementation Plan (ACJV 2005)

We hope those national and regional reports will stimulate Federal, state, and private agencies to coordinate, develop, and implement integrated approaches for conserving and managing the birds deemed most in need of conservation. This is one of the plans we considered in identifying species of concern in appendix A and developing management objectives and strategies in goal 1.

Originally written in 1986, the NAWMP describes a long-term strategy among the United States, Canada, and Mexico to restore and sustain waterfowl populations by protecting, restoring, and enhancing habitat. The plan committee, including representatives from each nation, has modified the 1986 plan four times to account for biological, sociological, and economic changes that influenced the status of waterfowl and the conduct of cooperative habitat conservation. The most recent revision, in 2012, (NAWMP 2012) establishes three overarching goals for waterfowl conservation: (1) abundant and resilient waterfowl populations to support hunting and other uses without imperiling habitat; (2) wetlands and related habitats sufficient to sustain waterfowl populations at desired levels, while providing places to recreate and ecological services that benefit society; and (3) growing numbers of waterfowl hunters, other conservationists and citizens who enjoy and support waterfowl and wetlands conservation. You may review the plan at: http://www.fws.gov/birdhabitat/NAWMP/files/NAWMP-Plan_EN-may23/pdf (accessed December 2013).

To convey goals, priorities, and strategies more effectively, NAWMP 2004 is composed of two separate documents: Strategic Guidance and Implementation Framework. The former is geared toward agency administrators and policy makers who set the direction and priorities for conservation. The latter includes supporting technical information for use by biologists and land managers.

The plans are implemented at the regional level in 14 habitat joint ventures and 3 species joint ventures: Arctic goose, American black duck, and sea duck. Our project area lies in the Atlantic Coast Joint Venture (ACJV), which includes all the Atlantic flyway states from Maine to Florida and Puerto Rico. The waterfowl goal for the ACJV is:

“Protect and manage priority wetland habitats for migration, wintering, and production of waterfowl, with special consideration to black ducks, and to benefit other wildlife in the joint venture area.”

In 2009, a revision of the original ACJV strategic plan (ACJV 2009) was completed. The ACJV 2009 plan presents habitat conservation goals and population indices for the ACJV consistent with the NAWMP update, provides status assessments of waterfowl and their habitats in the Joint Venture, and updates focus area narratives and maps for each state. That document is intended as a blueprint for conserving the valuable breeding, migration, and wintering waterfowl habitat present within the ACJV boundary based on the best available information and the expert opinion of waterfowl biologists from throughout the flyway. You may review the ACJV 2009 Strategic Plan at: <http://www.acjv.org/resources.htm> (accessed July 2011).

The ACJV Waterfowl Implementation Plan was published in 1988 and revised in 2005 (ACJV 2005). The plan also provides a baseline of information needed to move forward with a thorough approach for setting future habitat goals. Although Monomoy NWR is not within any of the identified Massachusetts waterfowl focus areas, this plan was used to identify species of concern listed in appendix A, and in developing management objectives and strategies under goal 1. You may review the ACJV 2005 Waterfowl Implementation Plan at: <http://www.acjv.org/resources.htm> (accessed July 2011).

**North American Bird
Conservation Initiative:
New England/Mid-Atlantic
Coast Bird Conservation
Region (BCR 30)
Implementation Plan**

The refuge lies in the New England/Mid-Atlantic BCR 30 (see map 2.1). BCR 30 provides important resources for migratory birds whose ranges span the Western Hemisphere. The habitats associated with coastal ecosystems provide the highest habitat values and critical staging areas for migratory waterfowl, waterbirds, shorebirds, and land birds. Forested upland communities are the second most important habitats for migratory birds in this BCR. Though the plan specifically highlights the Chesapeake and Delaware Bays, the Massachusetts Cape Cod and Islands area provides crucial resources for many migrating birds as they journey from their breeding sites in the north to non-breeding sites in Mexico, Central America, the Caribbean, and South America.

This plan identifies the bird species and habitats in greatest need of conservation action in this BCR region, activities thought to be most useful to address those needs, and geographic areas believed to be the most important places for those activities. Most priority species are associated with either coastal ecosystems (including beach, sand, mud flats, estuaries, bays, and estuarine emergent wetlands) or upland forested ecosystems. Geographic focus areas were identified for waterfowl, land birds, waterbirds, and shorebirds. Monomoy NWR supports 5 of the 11 priority habitat types: beach, sand, mud flat; estuarine emergent wetlands; freshwater emergent wetlands; marine open water; and shrubland/early successional communities. This plan is meant to start a regional bird conservation initiative of partners across BCR 30 communicating their conservation planning and implementation activities to deliver high-priority conservation actions in a coordinated manner. You may view the BCR 30 implementation plan at: http://www.acjv.org/BCR_30/BCR30_June_23_2008_final.pdf (accessed July 2011). We considered this plan in identifying species of concern in appendix A, and in developing management objectives and strategies under goal 1.

**North American Waterbird
Conservation Plan
(Version 1, 2002)**

This plan (Kushlan et al. 2002) represents a partnership among individuals and institutions with interest in and responsibility for conserving waterbirds and their habitats. The plan is just one element of a multi-faceted conservation program. Its primary goal is to ensure that the distribution, diversity, and abundance of populations and habitats of breeding, migratory, and non-breeding waterbirds are sustained or restored throughout the lands and waters of North America, Central America, and the Caribbean. It provides a framework for conserving and managing nesting water-dependent birds. In addition, it will facilitate continentwide planning and monitoring, national, state, and provincial conservation, regional coordination, and local habitat protection and management. You may access the plan at: http://www.pwrc.usgs.gov/nacwcp/pdfs/plan_files/complete.pdf (accessed July 2011).

In 2006, the Mid-Atlantic New England Working Group developed the Waterbird Conservation Plan for the Mid-Atlantic/New England/Maritimes (MANEM) Region (MANEM 2007). This plan was implemented between 2006 and 2010. It consists of technical appendixes on waterbird populations, including occurrence, status, and conservation needs; waterbird habitats and locations within the Mid-Atlantic region that are crucial for waterbird sustainability; MANEM partners and regional experts for waterbird conservation; and conservation project descriptions that present current and proposed research, management, habitat acquisition, and education activities. Summarized information on waterbirds and their habitats provides a regional perspective for local conservation action. You may access the plan at: <http://www.fws.gov/birds/waterbirds/manem/index.html> (accessed July 2011).

We considered this plan in identifying species of concern in appendix A, and in developing management objectives and strategies under goal 1.

U.S. Shorebird Conservation (2001, 2nd Edition), North Atlantic Regional Shorebird Plans, and Atlantic Flyway Shorebird Business Strategy

The U.S. Shorebird Conservation Plan (Brown et al. 2001) was developed for Conservation Science under a partnership of individuals and organizations throughout the United States. The plan develops conservation goals for each United States (U.S.) region, identifies important habitat conservation and research needs, and proposes education and outreach programs to increase public awareness of shorebirds and of threats to them. The plan has set goals at the hemispheric, continental, and regional levels. You may read the plan at: <http://www.lmvjv.org/library/usshorebirdplan.pdf> (accessed July 2011).

In the Northeast, the North Atlantic Regional Shorebird Plan (Clark and Niles 2000) was drafted to apply the goals of the national plan to smaller scales, identify priority species and habitat and species goals, and prioritize implementation projects. Monomoy NWR is part of the North Atlantic Coastal Plain planning region. The North Atlantic Coastal Plain is critical for breeding shorebirds, as well as for supporting transient species during both northbound and southbound migrations. The North Atlantic region is critical to the survival of hemispheric populations of some species, such as red knots, piping plovers, and whimbrels, that would be greatly impacted by continued habitat degradation or catastrophic chemical or petroleum spills.

High priority birds identified in this plan that are found at Monomoy NWR include piping plovers, American oystercatchers, semipalmated sandpipers, red knots, ruddy turnstones, sanderlings, and dunlins. The habitat goal under the North Atlantic Regional Shorebird Plan identifies the following four highest priority objectives:

- Identify and manage sufficient breeding habitat (beachfront) for piping plover and American oystercatcher.
- Identify and manage foraging and roosting habitat (intertidal-mud) for whimbrel, Hudsonian godwit, red knot, and semipalmated sandpiper to maintain migration stopover integrity by protecting and managing key concentration areas.
- Provide foraging and roosting habitat (intertidal-marsh) for whimbrel through protection and management at key sites.
- Identify and manage sufficient foraging and roosting habitat (intertidal complexes and impoundments) to maintain and enhance regional populations important in the region for species with overlapping requirements (ruddy turnstone, semipalmated sandpiper, short-billed dowitcher, sanderling, dunlin, black-bellied plover, and white-rumped sandpiper)

The plan also includes six high priority objectives, of which one is to identify and manage breeding and foraging habitat (intertidal-marsh) for willet throughout the region.

You may read the North Atlantic Regional Shorebird Plan at: <http://www.fws.gov/shorebirdplan/RegionalShorebird/RegionalPlans.htm> (accessed July 2011). These plans were consulted while identifying the species of concern listed in appendix A, and during the development of management objectives and strategies under goal 1.

The Atlantic Flyway Shorebird Conservation Business Strategy (Winn et al. 2013) identifies the most important actions and associated costs for shorebird conservation, with the goal of creating “a long-term platform for stability and

recovery of focal species.” Fifteen focal shorebird species are included in the business strategy, 9 of which occur regularly on Monomoy NWR. Business strategies differ from standard conservation plans by focusing on a set of well-developed actions that link funding to specific, measurable conservation outcomes. Typically, a conservation plan describes the natural history of species, lists conservation threats and needs, and presents a painstaking approach that applies objective criteria to determine high priority species. A business strategy builds on the scientific foundation of conservation plans by presenting strategic conservation solutions as actionable investment opportunities. You may read the plan at: http://manometcenter.pairserver.com/sites/default/files/publications_and_tools/AtlanticFlywayShorebirdBusinessStrategy.pdf (accessed November 2013).

Partners in Flight Bird Conservation Plans

In 1990, PIF began as a voluntary, international coalition of government agencies, conservation organizations, academic institutions, private industries, and citizens dedicated to reversing population declines of bird species and “keeping common birds common.” The foundation of its long-term strategy is a series of scientifically based bird conservation plans using physiographic areas as planning units.

The goal of each PIF conservation plan is to ensure the long-term maintenance of healthy populations of native birds, primarily non-game birds. The plan for each physiographic area ranks bird species according to their conservation priority, describes their desired habitat conditions, develops biological objectives, and recommends conservation measures. The priority ranking factors are habitat loss, population trends, and the vulnerability of a species and its habitats to regional and local threats.

The CCP project area lies in physiographic area 09 (see map 2.1), the Southern New England Region (Dettmers and Rosenberg 2000). The Southern New England Conservation Plan includes objectives for seven habitat types and associated species of conservation concern. Four of the seven priority habitats are found on Monomoy NWR: maritime marsh, beach/dune, freshwater wetland, and early successional/pitch pine barren. We referred to this plan in developing our list of species of conservation concern provided in appendix A, as well during the formulation of habitat objectives and strategies under goal 1 in the three alternatives. More information about PIF is available at: <http://www.partnersinflight.org> (accessed December 2013).

Massachusetts Wildlife Action Plan (Revised September 2006)

In 2002, Congress created the State Wildlife Grant (SWG) Program, and appropriated \$80 million in state grants. The purpose of the program is to help state and Tribal fish and wildlife agencies conserve fish and wildlife species of greatest conservation need. The funds appropriated under the program are allocated to each state according to a formula that takes into account each state’s size and population.

To be eligible for additional Federal grants, and to satisfy the requirements for participating in the SWG program, each state and U.S. territory was charged with developing a statewide comprehensive wildlife conservation strategy and submitting it to the National Advisory Acceptance Team by October 1, 2005. Each plan must address eight required elements, and each plan’s purpose is to identify and focus on “species of greatest conservation need,” while addressing the “full array of wildlife” and wildlife-related issues and “keep common species common.”

The Massachusetts Department of Fish and Game (MA DFG) plan (MA DFG 2006), commonly referred to as the state wildlife conservation strategy and

most often referred to as the state wildlife action plan (SWAP), resulted from that charge. It provides a blueprint and vision for effective and efficient wildlife conservation within Massachusetts, and stimulated other state and Federal agencies and conservation partners to think strategically about their individual and coordinated roles in prioritizing conservation.

In addressing the eight elements below, the Massachusetts SWAP helps supplement the information we gathered on species and habitat occurrences and their distribution in our area analysis, and helps identify conservation threats and management strategies for species and habitats of conservation concern in the CCP. The expertise convened to compile this plan and its partner and public involvement further enhance its benefits for us. We used the Massachusetts SWAP in developing our list of species of concern in appendix A, and the management objectives and strategies for goal 1. These eight elements are:

- (1) Information on the distribution and abundance of species of wildlife, including low and declining populations as the State fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the State's wildlife.
- (2) Descriptions of locations and relative condition of key habitats and community types essential to the conservation of species identified in element 1.
- (3) Descriptions of problems that may adversely affect species identified in element 1 or their habitats, and priority research and survey efforts needed to identify factors that may assist in restoration and improved conservation of these species and habitats.
- (4) Descriptions of conservation actions necessary to conserve the identified species and habitats, and priorities for implementing such actions.
- (5) Plans proposed for monitoring species identified in element 1 and their habitats, for monitoring the effectiveness of the conservation actions proposed in element 4, and for adapting those conservation actions to respond appropriately to new information or changing conditions.
- (6) Descriptions of procedures to review the plan at intervals not to exceed 10 years.
- (7) Plans for coordinating, to the extent feasible, the development, implementation, review, and revision of the plan strategy with Federal, State, local agencies, and Native American Tribes that manage significant areas of land and water within the State or administer programs that significantly affect the conservation of identified species and habitats.
- (8) Plans for involving the public in the development and implementation of plan strategies.

MA DFG submitted its SWAP in October 2005; a 2015 draft update is currently published for public review. You may view the 2005 plan and the draft update at: <http://www.mass.gov/eea/agencies/dfg/dfw/wildlife-habitat-conservation/state-wildlife-conservation-strategy.html#draftpublic> (accessed October 2015).

Natural Heritage BioMap2

The MA DFG Natural Heritage and Endangered Species Program and The Nature Conservancy's (TNC) Massachusetts Program developed BioMap2, an enhanced and comprehensive biodiversity conservation plan for Massachusetts that updates and broadens the biological and conceptual scope of the original

BioMap report published in 2001. *BioMap2* is “designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems.” *BioMap2* builds on the original *BioMap*, *Living Waters*, and the State wildlife action plan to prioritize and guide biodiversity conservation in Massachusetts in the context of continued development and the anticipated effects of climate change. It includes the latest survey information and spatial analyses, and identifies the areas of highest conservation value for a range of biodiversity elements.



Bill Thompson/USFWS

Piping plover

BioMap2 identifies core habitat, key areas that are critical for the long-term persistence of rare species and other species of conservation concern, as well as a wide diversity of natural communities and intact ecosystems across Massachusetts. Monomoy NWR includes the following priority natural communities: maritime beach strand community, maritime dune community, marine intertidal flats, and aquatic core habitat. Complementing core habitat, *BioMap2* also identifies critical natural landscape, large natural landscape blocks that provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience, as well as buffering land around coastal, wetland, and aquatic core habitats. Monomoy NWR contains the following critical natural landscapes: aquatic buffer, coastal adaptation area, landscape block, and tern foraging areas.

The *BioMap2* interactive map and summary report can be found online at: <http://www.mass.gov/eea/docs/dfg/nhespl/land-protection-and-management/biomap2-summary-report.pdf> (accessed August 2011).

Species-Specific Recovery Plans

In addition to these regional and State plans, there are three species-specific recovery plans that were consulted during the development of this CCP.

Atlantic Coast Piping Plover Recovery Plan

In 1996, a revision was made to the original 1988 Atlantic Coast Piping Plover Recovery Plan (USFWS 1996a). The primary objective of the revised recovery program is to remove the piping plover population from the Service's List of Endangered and Threatened Wildlife and Plants. This would be achieved through well-distributed increases in numbers and productivity of breeding pairs, and providing for long-term protection of breeding and wintering plovers and their habitat. The strategies within the plan provide for the ensured long-term viability of piping plover populations in the wild. The Atlantic Coast Piping Plover Recovery Plan is available online at: <http://www.fws.gov/northeast/pipingplover/recovery.html> (accessed October 2015). The piping plover was included in a cursory 5-year review (USFWS 2009a); no change in status was recommended. The 5-year review can be found at: http://ecos.fws.gov/docs/five_year_review/doc3009.pdf (accessed October 2015).

The piping plover status in the Commonwealth of Massachusetts and on Monomoy NWR is described in chapter 2.

Northeastern Beach Tiger Beetle Recovery Plan

The Northeastern Beach Tiger Beetle Recovery Plan was written and approved in 1994. A 5-year status review of the northeastern beach tiger beetle was conducted in February 2009 (USFWS 2009b). The review recommends that the recovery plan be updated to include more detailed information to revise recovery strategies and criteria. Recommendations were also made to address specific research and data needs, and conservation actions. The review made the recommendation that the current classification status of threatened be reclassified to endangered, based on declining beetle numbers throughout their range and increased habitat loss and degradation. The Northeastern Beach Tiger Beetle Recovery Plan and the 5-year review can be accessed online at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=I02C>.

The northeastern beach tiger beetle status in the Monomoy NWR is described in chapter 2.

Roseate Tern Recovery Plan (Northeastern Population)

The Roseate Tern Recovery Plan was published in 1989 and updated in 1998 (USFWS 1998a). A 5-year review was initiated in December 2008 (USFWS 2010a). The primary objective of the recovery program for the roseate tern is to promote an increase in breeding populations, distribution, and productivity so this species can be reclassified as threatened and eventually delisted. The updated recovery plan actions include: increasing roseate tern survival and productivity by overseeing breeding roseate terns and their habitat; developing a monitoring plan for wintering and migration areas; obtaining unprotected sites through acquisition and easements; developing outreach materials and implementing education programs; conducting scientific investigations that will help facilitate recovery efforts; and annually reviewing recovery progress and revising recovery efforts as necessary. The Roseate Tern Recovery Plan can be accessed online at: http://ecos.fws.gov/docs/recovery_plan/981105.pdf. The 5-year review can be found at: http://ecos.fws.gov/docs/five_year_review/doc3588.pdf.

The status of roseate terns on Monomoy NWR is described in chapter 2.

Alternative Transportation Study: Monomoy National Wildlife Refuge

The U.S. Department of Transportation (USDOT) Volpe National Transportation Systems Center completed their study, "Alternative Transportation Study: Monomoy National Wildlife Refuge" (May 2010) funded in 2007 through the Federal Transit Administration's Alternative Transportation in Parks and Public Lands program. The study examines existing transportation conditions, presents and evaluates transportation options, assesses partnership opportunities, and provides implementation considerations. That recent study identified 39 transportation interventions and evaluated 21 interventions in detail, addressing a variety of transportation safety and access issues at Monomoy NWR. The Volpe Center study identifies interventions that improve multi-modal access to Monomoy NWR and within the Town, reduce traffic and parking congestion around Monomoy NWR and within the Town, improve traveler safety, enhance the visitor experience, and develop and enhance partnerships with governmental and non-governmental agencies.

In 2012, the refuge received \$400,000 to work with partners and the Town to implement components of the study that are detailed below and in chapter 3. The award from the USDOT to the Service for year 1 of a planned 3-year, public-private partnership demonstration project at Monomoy NWR and in Town was to be applied to the following:

- Establish and operate a peak-season, bio-diesel shuttle-bus system serving Monomoy NWR and Town-owned Lighthouse Beach within Cape Cod National Seashore from satellite parking areas that will also pass through and make stops along Chatham's Main Street business-historic district.

- Improve route markers and signage to the Monomoy NWR facilities and Lighthouse Beach, satellite parking areas, and other Town parking to facilitate public access to the refuge.
- Make improvements to reduce existing vehicle-pedestrian safety concerns and improve traffic flow along Morris Island Road, ensuring parked vehicles are off the driving surface and on the road shoulder.

After the Service received these funds, the Town declined the Federal funding and decided not to include a shuttle stop at the refuge as part of their proposed shuttle system. We may still purchase a shuttle and operate it with staff, volunteers, or other partners, and we will continue to work with the Town on wayfinding and causeway improvements.

The interventions listed below, grouped into five categories, were used in formulating the alternatives presented in chapter 3.

Multimodal Roadway/Sidewalk Engineering Improvements

- (1) Relocate and reinstall causeway fencing to better accommodate parked cars and emergency vehicles.
- (2) Create a multi-use path on one side of causeway for bicycles and pedestrians.
- (3) Construct sidewalk between Bridge Street parking areas and Lighthouse Beach.
- (4) Paint “sharrow” or shared lane markings on the signed bicycle route.
- (5) Provide bicycle facilities and amenities at shuttle stops.
- (6) Provide pedestrian improvements at and around shuttle stops.
- (7) Add bicycle and pedestrian facilities and enhanced amenities at the new visitor contact station.
- (8) Provide additional bicycle racks at Monomoy NWR headquarters/visitor contact station, Lighthouse Beach, and high priority downtown locations.

Vehicular Parking Interventions

- (1) Identify and secure satellite parking location.
- (2) Implement parking restrictions at Monomoy NWR headquarters/visitor contact station.

Transit Service

- (1) Operate shuttle service to Monomoy NWR (and other destinations in Chatham) from satellite parking.
- (2) Contract with taxi service or other provider to offer demand responsive, shared taxi service to Monomoy NWR (and other destinations in Chatham) from satellite parking.
- (3) Provide a multi-passenger shuttle from a new downtown visitor contact station to Morris Island.

Signs, Route Direction, and Information

- (1) Use variable message signs at new, redesigned intersection to direct visitors to satellite parking.
- (2) Improve bicycle route signs.
- (3) Improve directional signs to Monomoy NWR headquarters/visitor contact station.
- (4) Add directional and informational signs throughout Chatham.
- (5) Add directional and informational signs throughout Cape Cod and along Route 6.
- (6) Improve traveler information on the Monomoy NWR Web site.

Other

- (7) Relocate the Monomoy NWR visitor contact station.
- (8) Improve waterfront access.

Other Information Sources

We also consulted the plans and resources below, especially those with a local context, as we refined our management objectives and strategies.

Continental or National Plans

- National Audubon Society Watch List (Butcher et al. 2007); available at: <http://birds.audubon.org/sites/default/files/documents/watchlist2007-technicalreport.pdf> (accessed July 2011)
- Coastal Zone Management Act of 1972; available at: http://www.nps.gov/history/local-law/FHPL_CstlZoneMngmt.pdf (accessed July 2011)
- Marine Mammal Protection Act (MMPA) of 1972, as amended in 2007; available at: <http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa.pdf> (accessed July 2011)
- The National Wilderness Preservation System; Monomoy Wilderness; available at: <http://www.wilderness.net/index.cfm?fuse=NWPS&sec=wildView&wname=Monomoy>
- American Oystercatcher Focal Species Business Plan, summary available at: http://acjv.org/Fact_Sheets/BP_Exec_Sum.pdf

Regional Plans

- Western Hemispheric Shorebird Reserve Network Regional Site: Monomoy NWR; available at: <http://www.whsrn.org/site-profile/monomoy-nwr>

State Plans

- Massachusetts Important Bird Areas Program; Monomoy NWR and South Beach; available at: <http://iba.audubon.org/iba/viewState.do?state=US-MA>
- Massachusetts Natural Communities (Swain and Kearsley 2001); available at: http://www.mass.gov/dfwele/dfw/nhesp/natural_communities/natural_community_classification.htm (accessed July 2011)
- Our Irreplaceable Heritage-Protecting Biodiversity in Massachusetts; available at: <http://mass.gov/dfwele/dfw/nhesp/nhesp.htm> (accessed July 2011)

Refuge Establishment Purposes and its Land Acquisition History

The Service established Monomoy NWR in 1944 under a Declaration of Taking for the following purposes and under the following authorities:

“... for use as an inviolate sanctuary, or for other management purpose, for migratory birds” —Migratory Bird Conservation Act (16 U.S.C. § 715d)

Throughout the initial designation process for the refuge, the Monomoy area was recognized as an “outstanding waterfowl area” and as “one of the finest shorebird beaches in North America” (Salyer 1938) and for the eelgrass (*Zostera* spp.) beds in shoal waters northwest of Inward Point on the Common Flats (Griffith 1938) that were described as “dense” beds in 1929 (Hotchkiss and Ekvall 1929). The biological values of this area helped define the refuge boundary.

The Declaration of Taking, which was implemented through a condemnation action, includes a detailed written description of an extensive western area containing upland, intertidal flats, and submerged lands and waters, as well as a map generally outlining those exterior limits and describing them as the “Limits of Area to be Taken.” The eastern boundary is the MLW line and is ambulatory, meaning it moves as the mean low water line moves. This taking was approved by the District Court of the United States in February 1944 and took immediate effect on June 1, 1944, when it was filed in Federal court.

The size and shape of Monomoy NWR has changed over time due to erosion and accretion. These changes are described in chapter 2 under “Refuge Administration.” With the latest change, the refuge now includes a small part of Nauset/South Beach and encompasses approximately 7,921 acres. The refuge boundary is depicted on map 1.1.

In 1970, Congress designated approximately 2,600 acres of land as wilderness to become part of the NWPS, thereby preserving the wilderness character of the Monomoy Islands.

“In accordance with ... the Wilderness Act...certain lands in the Monomoy National Wildlife Refuge, Massachusetts, which comprise about two thousand six hundred acres but excepting and excluding therefrom two tracts of land containing approximately ninety and one hundred and seventy acres, respectively and which are depicted on a map entitled “Monomoy Wilderness—Proposed” and dated August 1970, which shall be known as the Monomoy Wilderness”—an Act to Designate Certain Lands as Wilderness (Public Law 91-504, 16 U.S.C. § 1132(c)).

The Monomoy Wilderness extends to the MLW mark, as evidenced in records from the Service’s first wilderness proposal and public hearing through to the officially certified description of the wilderness area. The size of the wilderness area has changed over time as the Monomoy landform and surrounding intertidal lands have changed. The land to the west of the administratively determined management boundary line on Nauset/South Beach is now part of the Monomoy Wilderness because it attached to refuge lands that were designated wilderness (map 1.3).

With the designation of national wilderness at Monomoy NWR, the original establishing refuge purpose of “management and protection of migratory birds,” was expanded to include “management and protection of wilderness character and values.”

Refuge Administration

The Service administers Monomoy NWR as part of the Eastern Massachusetts NWR Complex, which also includes Assabet River, Great Meadows, Mashpee,

Massasoit, Nantucket, Nomans Land Island, and Oxbow refuges. The refuge complex headquarters is located in Sudbury, Massachusetts, and has its complex visitor center at the Assabet River NWR.

The refuge complex has 15 permanent staff, with some positions currently vacant. Eleven are located at the complex in Sudbury, including project leader, deputy project leader, two biologists, visitor services manager, refuge planner, two law enforcement officers, two maintenance workers, and one administrative staff. One permanent staff person, a visitor services specialist, is located at the Assabet River NWR. Monomoy maintains three onsite positions: refuge manager, wildlife refuge specialist, and wildlife biologist. Seasonal biological technician and term staff positions and volunteer intern positions vary each year depending on funding. In addition, volunteers and a Friends group assist throughout the year.

Refuge Operational Plans (“Step-down” Plans)

Refuge planning policy lists more than 25 step-down management plans that may be required on refuges. These plans contain specific strategies and implementation schedules for achieving refuge goals and objectives. Some plans require annual revisions; others require revisions every 5 to 10 years. Some require additional NEPA analysis, public involvement, and compatibility determination before we can implement them.

This final CCP/EIS, incorporates by reference, those refuge step-down plans that are up to date. Chapter 3 provides more information about the additional step-down plans needed for the refuge.

The following step-down plans have been completed, and apply to all eight refuges in the Eastern Massachusetts NWR Complex:

- Avian Influenza Surveillance and Contingency Plan—completed in 2007
- Continuity of Operations Plan—updated in 2015
- Fire Management Plan (FMP)—completed in 2003; will be updated in 2015
- Hurricane Action Plan—updated annually; updated in 2015
- Spill Prevention and Counter Measure Plan—completed in 2005; updated in 2012

We plan to complete the following step-down plans following approval of the CCP (see chapter 3):

- Habitat Management Plan
- Inventory and Monitoring Plan
- Annual Habitat Work Plan
- Fishing Plan
- Mosquito Management and Control Plan
- Wilderness Stewardship Plan
- Law Enforcement Management Plan
- Migratory Bird Disease Contingency Plan
- Visitor Services Plan
- Cultural Resources Management Plan
- Integrated Pest Management Plan

Complex and Refuge Vision Statements

This section provides the vision statements of both the complex and Monomoy NWR.

**Eastern Massachusetts
NWR Complex Vision
Statement**

The following vision statement was developed in 2003 for the refuge complex:

The refuge complex will contribute to the mission of the Refuge System and support ecosystem-wide priority wildlife and natural communities. Management will maximize the diversity and abundance of fish and wildlife with emphasis on threatened and endangered species, migratory birds, and aquatic resources. The refuge complex will have a well-funded and community-supported acquisition program that contributes to wildlife conservation. The refuges will be well known nationally and appreciated in their communities. They will be seen as active partners in their communities, school systems, and environmental organizations, which will result in high levels of support for the refuges. The refuges will be a showcase for sound wildlife management techniques and will offer top-quality, compatible, wildlife-dependent recreational activities. Refuges open to the public will provide staffed visitor contact facilities that are clean, attractive, and accessible, with effective environmental education and interpretation.

**Monomoy National Wildlife
Refuge Vision Statement**

Very early in the planning process, our team developed this vision statement for Monomoy NWR to provide a guiding philosophy and sense of purpose in the CCP.

Extending from the elbow of Cape Cod, Monomoy National Wildlife Refuge consists of an assembly of barrier beaches that includes some of New England's last remaining wild seacoast. This dynamic, wilderness system of ocean, intertidal flats, salt and freshwater marshes, dunes and freshwater ponds, provides vital habitat for a vast array of diverse species. Monomoy NWR is world-renowned for its range of seasonal wildlife inhabitants. Seabirds, waterfowl, shorebirds, wading birds, land birds, horseshoe crabs, and seals rely upon the refuge for survival during various times of the year. Given the vital role that these lands and waters play in the survival of so many endangered, threatened, and special species, wildlife conservation and management will always be our first priority at Monomoy NWR.

The unique area that is Cape Cod allows us to reach large numbers of visitors from all over the world. Visitors will learn about the rich history of the refuge, experience unique recreational opportunities, view wildlife in a natural setting, and learn about the positive and negative impacts of human interactions with the refuge. Visitors will understand and appreciate how we manage the refuge, its habitats, and wildlife species. We will ensure that the number of visitors on the refuge is appropriate so as not to detract from a rich wilderness and wildlife experience.

As a regional and national role model, the refuge will provide scientific and technical leadership for wildlife and resource management that is adaptable to changing conditions. Talented, knowledgeable staff will continue to develop and foster partnerships with local, regional, national, and international organizations to assist in the management of Monomoy NWR and inform the conservation community of the work that we do. Monomoy NWR will continue to play a crucial role in the National Wildlife Refuge System by protecting this critical nesting, feeding, and resting area for migratory birds along the Atlantic Coast.

Refuge Goals

In 2009, the CCP planning team developed the following draft goals after reviewing the refuge purposes, the mission of the Service and Refuge System, the proposed vision statement, public and partner comments, as well as the mandates, plans, and conservation strategies summarized above.



Cheryl Horton 2015

Sunset on the refuge

Goal 1: Perpetuate the biological integrity and diversity of coastal habitats to sustain native wildlife and plant communities, including species of conservation concern.

Goal 2: Provide the public with wildlife-dependent recreational, interpretive, and environmental educational opportunities to enhance awareness and appreciation of refuge resources and to promote stewardship of the wildlife and habitats of Monomoy NWR.

Goal 3: Communicate and collaborate with local communities, Federal and State agencies, and conservation organizations to promote natural resource conservation and support the goals of the refuge and the mission of the Service.

Goal 4: Ensure that the spirit and character of the Monomoy Wilderness are preserved.

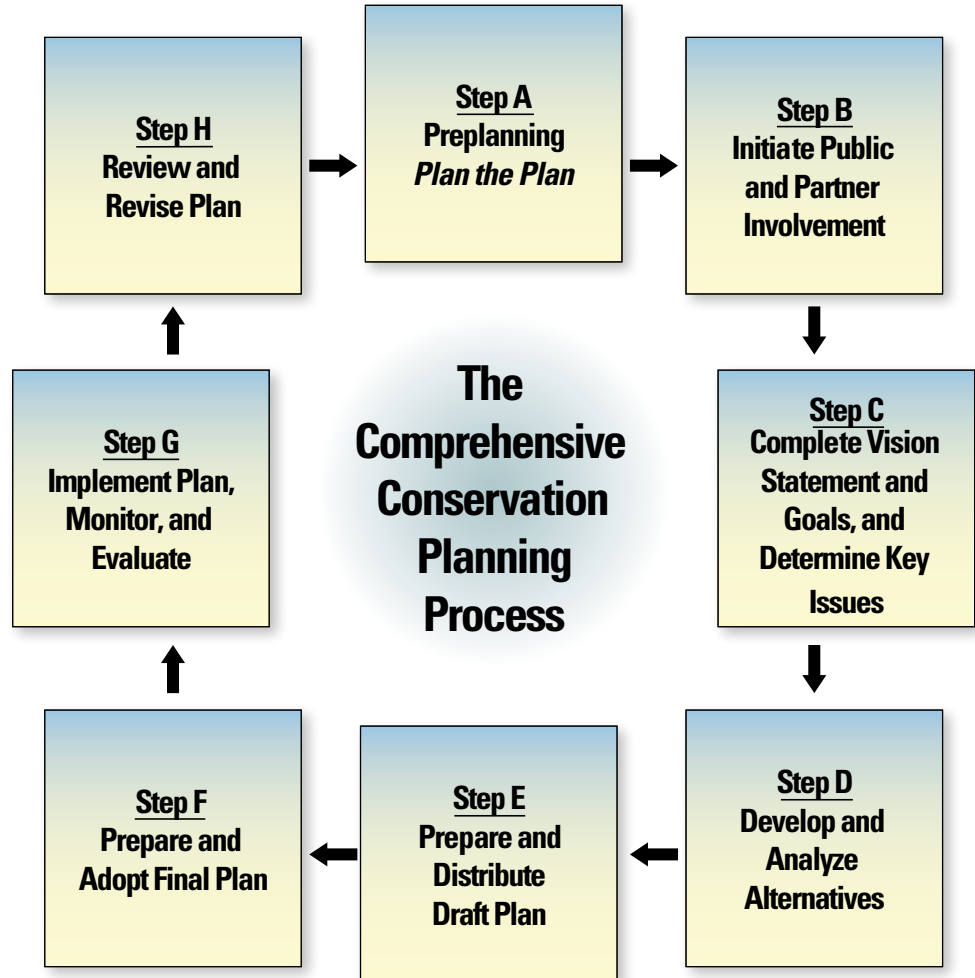
Goal 5: Protect cultural resources that exist in the refuge.

Goal 6: Develop and maintain a diverse and inclusive workplace with sufficient resources, including infrastructure and equipment, to work productively toward fulfilling the refuge mission.

The Comprehensive Conservation Planning Process

Service policy (602 FW 3) establishes an eight-step planning process that also facilitates compliance with NEPA (figure 1.1). Details on each step in the process are available on our Web site at: <http://www.fws.gov/northeast/planning>. The CCP development process is described below in more detail.

Figure 1.1. Steps in the Comprehensive Conservation Planning Process.



Since 1944, we have focused on conserving lands within the approved acquisition refuge boundary, managing habitat for migratory birds, and establishing relationships with the community of Chatham and other partners. Our planning process started in 1998 and included all eight of the refuges in the Eastern Massachusetts NWR Complex. We published a Notice of Intent in the *Federal Register*, and began public scoping. In February of 1999, we held open houses in each unit for public comment on different issues, including current and future management strategies, land protection, and public uses. We were pleased with the participation at many of our meetings, which ranged from 30 people to more than 100. We recognized that attending our open houses would be difficult for many, and designed an issues workbook to encourage additional comments from those who were unable to attend. Those workbooks allowed people to share what they valued most about the refuge, their vision for its future and the Service's role in their community, and any other issues they wanted to raise. More than 8,000 people representing a variety of interests received workbooks. Workbooks were also available at open houses and at the refuge headquarters. We received

more than 660 responses. The responses for Monomoy NWR were considered in the development of issues for this CCP.

In February 2001, we determined that writing a plan for eight refuges was too cumbersome, so we delayed our planning for Monomoy NWR and changed our focus on CCPs for the three northernmost refuges in the complex. The efforts for Monomoy NWR were halted until 2004, when, in an effort intended to initially “rescope” the issues surrounding management of the refuge, we asked the independent, nonpartisan, nonprofit facilitator, the Consensus Building Institute (CBI), to conduct an assessment that would provide specific, detailed recommendations for stakeholder involvement and participation in the planning process. Between November 15 and December 23, 2004, CBI conducted 15 interviews with 19 individuals either in-person or over the phone. We sought to provide CBI a diverse set of stakeholders who might identify many, if not most, issues relevant to management of the refuge. Some interviewees suggested additional individuals to interview. Thus, CBI interviewed a selection of stakeholders, from local businesses and residents to elected and appointed officials. The results of these interviews were summarized in a brief report.

On December 13, 2004, we announced in the *Federal Register* that we were restarting the CCP process for Monomoy and Nomans Land Island refuges and that an EIS would be completed. We began preparations for developing a joint CCP by collecting information on refuge resources and convening our core planning team, which consisted of refuge complex staff, Northeast regional Refuge System staff, representatives from the Wampanoag Tribe of Gay Head (Aquinnah), and the MA DFG.

Public scoping meetings were held in April 2005 in Chatham, Sudbury, and Chilmark, Massachusetts. More than 300 people attended these meetings. Most of the planning effort during this period was focused on the CCP for the Monomoy NWR. We discussed management issues, drafted a vision statement and tentative goals, and compiled a project mailing list of known stakeholders, interested individuals, organizations, and agencies. These steps were part of “Step B: Initiate Public Involvement and Scoping.”

In the fall of 2006, we reviewed the public comments received and used the information to firm up our key issues and develop our draft vision, goals, and objectives. A planning update was distributed with the draft goals and objectives. The Service put together a planning team composed of staff members, a representative from MassWildlife, and a representative from the Wampanoag Tribe of Aquinnah. This team worked to develop a refuge vision statement, which would be an achievable, future view of the refuge. This completed Step C, “Review Vision Statement, Goals, and Determine Significant Issues.”

In September 2008, we resumed this process after a second delay due, in part, to the transfer of refuge personnel. We also further decided to split apart Monomoy and Nomans Land Island refuges into separate CCPs for efficiency. We provided an update to the 373 individuals on our Monomoy CCP mailing list (“Step B: Initiate Public Involvement and Scoping”) in a fall 2008 newsletter. During this time, most of the planning efforts were focused on the Nomans Land Island NWR CCP, but on Monomoy we continued scientific research and coordination with the Town. We contracted with the Provincetown Center for Coastal Studies to conduct a geomorphological analysis of the Monomoy barrier system, an analysis was conducted to estimate the impact of sea level rise on the refuge, and we applied for and received funding to address significant transportation issues affecting the refuge and the Town.

Next, we moved into Step D, “Develop and Analyze Alternatives.” The purpose of this step is to develop alternative objectives and strategies for addressing

the issues and achieving the goals. From April 2009 to June 2011, we worked to develop our three alternatives. In March 2013, we distributed a newsletter updating our planning timeframes.

We completed Step E, “Prepare Draft Plan and NEPA document,” in 2014 by publishing a Notice of Availability (NOA) in the *Federal Register* announcing the release of the draft CCP/EIS and distributing it for public review on April 10, 2014. The initial 60-day public comment period (through June 9), was extended to 180 days (October 10, 2014). During the 180-day period of public review, we held a public hearing and four public information workshops in Town to obtain written and oral comments. In addition to the public hearing comments, we received comments by regular mail, electronic mail, and personally delivered to the Monomoy NWR office. Following the public comment period, we reviewed and summarized all the comments received and developed our responses. These are found in appendix K to this final CCP.

This final CCP/EIS was prepared as part of “Step F: Prepare and Adopt a Final Plan.” It incorporates changes resulting from public review and comments received on the draft CCP/EIS, as well as the Service and Refuge System missions, purposes for which the refuge was established, and other legal mandates. The Service preferred alternative identified in this final CCP/EIS is alternative B reflecting the desired combination of species protection, habitat management, public use and access, and administration for the refuge. This final CCP/EIS will remain available for a 30-day public review period, beginning when a NOA is announced in the *Federal Register*.

Following the 30-day public review of this final CCP/EIS, our Northeast Regional Director will issue a ROD, documenting the decision on which management alternative is being adopted as the CCP that will guide refuge management decisions over the next 15 years. The availability of the ROD will be announced in another NOA in the *Federal Register*, completing Step F. We will also use the final plan to promote understanding and support for refuge management among State agencies in Massachusetts, our conservation partners, Tribal governments, local communities, and the public.

“Step G: Implement Plan, Monitor, and Evaluate,” will begin once we notify the public of the ROD issuance in the *Federal Register*. We will modify this CCP following the procedures in the Service Manual (602 FW 1, 3, and 4) and NEPA requirements as part of “Step H: Review and Revise Plan.” Minor revisions that meet the criteria for categorical exclusions (550 FW 3.3C) will require only an Environmental Action Memorandum. We must fully revise CCPs every 15 years.

Wilderness Review

The planning team initiated a Wilderness Review, as required by refuge planning policy, to determine if portions of Monomoy NWR that were excluded from the original 1970 wilderness designation lands and waters in fee title ownership were suitable to be proposed for designation as a wilderness area.

The purpose of a wilderness review is to identify and recommend for congressional designation Refuge System lands and waters that merit inclusion in the NWPS. Wilderness reviews (610 FW) are a required element of CCPs and conducted in accordance with the refuge planning process outlined in 602 FW 1 and 3, including public involvement and NEPA compliance.

There are three phases to the wilderness review process: inventory, study, and recommendation. Lands and waters that meet the minimum criteria for wilderness are identified in the inventory phase. These areas are called wilderness study areas (WSAs). In the study phase, a range of management alternatives is evaluated to determine if a WSA is suitable for wilderness

designation or management under an alternate set of goals and objectives that do not include wilderness designation.

The recommendation phase consists of forwarding or reporting the suitable recommendations from the Director through the Secretary and the President to Congress in a wilderness study report. The wilderness study report is prepared after the CCP has been finalized.

Areas recommended for designation are managed to maintain wilderness character in accordance with management goals, objectives, and strategies outlined in the final CCP until Congress makes a decision or the CCP is amended to modify or remove the wilderness proposal.

Appendix E summarizes the inventory phase of our wilderness review for Monomoy NWR. The wilderness inventory determined that none of the current non-wilderness portions of South Monomoy Island, excluded from wilderness designation in 1970, yet meet the eligibility criteria for further detailed study as WSAs as defined by the Wilderness Act during the 15-year plan period.

Since the wilderness inventory (appendix E) determined no current non-wilderness portions of Monomoy NWR possess wilderness character sufficient for WSA designation, the wilderness study and recommendation phases of the wilderness review process will not be undertaken during the 15-year plan period. The refuge will again undergo another wilderness review in 15 years as part of the next planning cycle, at which time WSA designation and the wilderness study and recommendation phases will be reconsidered for the Inward Point and Powder Hole areas. We may also conduct a wilderness review prior to the next planning cycle should:

- Significant new information become available.
- Ecological or other conditions change, or we identify a need to do so.

Issues, Concerns, and Other Opportunities

From our issues workbook, public and focus group meetings, the assessment conducted by CBI, and planning team discussions, we developed a list of issues, opportunities, and any other item requiring a management decision. Over time, some of these issues faded in importance while others surfaced or gained more importance. We concentrated on the issues raised during scoping and afterwards as the drivers for our analysis and comparison of alternatives. Most of these issues are described as they were of concern in 2005, when we began again working on this CCP. In 2015, some of the issues are not as pressing, but we have included them here, as they were considered in the development of this CCP/EIS. We will address three categories of issues in the CCP/EIS:

- (1) Significant issues—these issues formed the basis for the development and comparison of different management alternatives. A range of opinions on how to resolve these significant issues and meet objectives generated the different alternatives presented in chapter 3. These issues are resolved differently among the alternatives. Significant issues are discussed in detail below.
- (2) Other issues and management concerns—these issues and management concerns are also presented in chapter 3, but are not considered “significant.” These issues are often resolved in a similar manner in all of the alternatives.
- (3) Issues and concerns outside the scope of this analysis—the resolution of these issues falls outside the scope of this EIS or outside the jurisdiction or authority of the Service. Although we discuss them briefly in this chapter, we do not address them further in this final CCP/EIS.

Significant Issues

Addressing the significant issues below will help us achieve some of the goals described previously. Chapter 3 describes in detail how the alternatives address these significant issues, based on adaptive management of a dynamic refuge environment, and how addressing these issues will help achieve refuge goals.

Determination of Refuge Boundary and Jurisdiction—The Declaration of Taking encompasses all the land and waters from the MLW line on the eastern shore of the refuge to an area within Nantucket Sound identified by latitude and longitude coordinates on the western side (i.e., the eastern refuge boundary is defined as MLW and is a shifting boundary; however, the western side of the refuge boundary is fixed). Shifting boundaries due to erosion and deposition is an ongoing issue. It is important to note, that the wilderness designation extends to mean low water across the refuge.

- **Western Boundary.** Other than prohibiting horseshoe crab harvesting, the Service has not regulated any of the activities occurring within the Declaration of Taking's fixed western boundary. Concern about if and how activities, particularly fisheries, might be regulated by the Service within these waters has been expressed by Town officials.
- **Eastern Boundary.** Sand shoals constantly shift, creating a complex nearshore geomorphology. As early as 2002, the connection between Nauset/South Beach and the north tip of South Monomoy Island began forming, with the intertidal connection probably occurring in 2005 and an upland connection visible by 2006. Since the boundary of the Cape Cod National Seashore extends ¼ mile beyond the land, and Nauset/South Beach has been under the jurisdiction of the Cape Cod National Seashore for many years, the two Federal boundaries technically overlap. The Service, NPS, and the Town signed a MOU in 2007/2008 that established a management boundary for use in determining jurisdictional authorities and working together on safety and resource management issues. It also recognized the need to work together to achieve resolution of the permanent boundary issue. That MOU has subsequently expired. In June 2015, the Service and the Town entered into a new 15-year MOU that addresses this eastern boundary. This is described in more detail in chapter 2.

Fishing—Fishing is a traditional use of the waters around the Monomoy Islands. Town officials and local residents, including many people who earn a living shellfishing or commercial fishing, expressed the desire that the refuge remain open for commercial and recreational fishing.

- **Shellfishing.** Residents of the Town can apply for a shellfish permit to collect shellfish. People explained that residents enjoy this recreational activity but usually go to areas more easily accessed than Monomoy NWR. The species harvested in the region are softshell clams, quahog clams, razor clams, sea (surf) clams, mussels, scallops, and oysters, and harvest locations change annually depending upon the suitability of the habitat for these species.
- **Sport Fishing.** Recreational fishing is conducted by individual anglers and by guides and charter captains. The Morris Island portion of the refuge is open 24 hours a day for recreational fishing. Concern was expressed about continued access to the islands for fishing and 24-hour fishing access to Morris Island, as a gate had been recently installed at refuge headquarters.

*Depredation on
piping plover eggs*



Yianni Laskaris/USFWS

- **Commercial Open Water Fishing.** The commercial fishing industry in Chatham includes open water fishing which is conducted using hook and line, trawling, fish pots (lobster, whelk, and crab) and fish weirs. There is strong interest by the Town, the Massachusetts Division of Marine Fisheries, State legislators, and local residents to allow unencumbered access and fishing in Nantucket Sound and the Southway.

Management of Resources—This includes concerns relating to both archaeological and biological management of resources. Some of these are significant issues because the objectives and/or strategies will differ among the alternatives.

- **Predator Management.** Currently, the refuge manages predators such as coyote, greater black-backed gull, and black-crowned night-heron through a variety of lethal and non-lethal methods. Predator management elicits a strong emotional response from some individuals. Some feel that management of coyotes is ineffective and that it is a regional issue, not solely one for the refuge to resolve. Some stated it is imperative that we use existing non-lethal alternatives and actively search out new ones; additionally, when lethal management does occur, the targets are specific. Some stated that lethal predator management is never appropriate for a national wildlife refuge. Others feel policies that integrate deterrents and careful habitat modification target only offending individuals, and that actively searching for alternatives to lethal management is more appropriate. Some suggested more research was needed on alternative types of management and their effectiveness. The nesting laughing gull and tern (common, roseate) populations have increased dramatically since the predator management program was instituted in the late 1990s. This CCP addresses predator management as an important management tool to minimize losses to listed waterbird and shorebird populations utilizing the refuge.
- **Mosquito Control.** Currently on Monomoy NWR, the Cape Cod Mosquito Control Project controls mosquitoes. *Bacillus thuringiensis israelensis* (BTI) is a bacterium that acts specifically on mosquito larvae and prevents their development. According to the few who mentioned this issue, the application is safe and there have been no incidents with humans or animals. Many in the Town do support the control of mosquitoes due to their nuisance and, more importantly, their ability to carry various diseases. Mosquito control is only an issue on Morris Island.

- Habitat Management of Nesting Seabirds and Shorebirds. Most interviewees noted that this is the primary natural resource of the refuge. Most interviewees consider this a valuable resource and one that the refuge does a decent to superior job in managing and protecting. Some noted the valuable relationship between Massachusetts Audubon Society and the refuge, including the tours that take place frequently in the summer. A few noted that issues have arisen in the past, from gull control to closure of various areas/islands. Overall, however, most interviewees appeared satisfied with the refuge's management of this primary resource. Nesting seabird and shorebird habitat management involves vegetation management, including the use of prescribed burning to reduce cover of grasses and woody plants in the tern colony.
- Seals. The seal population on Monomoy NWR has grown steadily since 2005. Some people believe that seals are impacting sport and commercial fisheries. There is also concern about the increase in the sightings of great white sharks off the Monomoy Islands and elsewhere on Cape Cod, which is attributed to the increasing seal population.
- Dredging and Beach Nourishment. The Town, U.S. Army Corps of Engineers (USACE), local harbors and marinas, and private individuals want to dredge or deposit dredged material within the refuge boundary for recreational and commercial use, or to create or improve habitat for species of conservation concern in non-wilderness areas. In addition, they want to see local beach areas created and maintained outside the refuge boundary.

Public Access—Public access at Monomoy NWR consists of a number of key components.

- Parking at Morris Island. Stakeholders indicated that the parking lot at the refuge headquarters is often too small to accommodate visitor demand. Some local individuals feel that the refuge's open access parking attracts people to Monomoy NWR to use the beach for recreational activities and sunbathing, thereby exacerbating a parking situation on the town-owned causeway. The narrow causeway was not designed to accommodate parked cars, which can cause a safety problem. Also, some local residents are concerned that the parking at Morris Island attracts too many people and creates too much noise from buses.
- Traffic. Neighbors with property adjacent to the refuge have issues with the public, including vans, cars, trucks, recreational vehicles and school buses, using the right-of-way on Tisquantum Road to get to the refuge. The road is narrow and, other than snow removal, maintained primarily by the Quinneset Association. Some noted that although the road is used for refuge operations, the refuge does not assist in paying for or maintaining the road. Others noted that due to poor signage, refuge traffic sometimes ends up in other neighborhoods.
- Parking at Stage Island. For many years we issued a very limited number of permits to allow parking in our lot on Stage Island. Non-Service parking and dinghy storage interferes with refuge operations, as our use of this lot has changed in the past few years.
- Continued Access. The general public, including anglers, expressed a desire to ensure that free public access to the refuge continues. Shore fishermen would like to continue to access the Morris Island portion of the refuge 24 hours a day for fishing.

- **Ferry Services.** Currently, there are two ferry services that have special use permits (SUPs) to land on the refuge. One of the permits allows the provider to use the refuge as a base of operations. Some raised strong concern about the impacts of the current ferry service operating on refuge headquarters land. Concerns mentioned included parking on the causeway and near the headquarters, number of visitors, visitors' impacts to abutting properties, and use of ferry service as a "means to sunbathe not bird watch." Some individuals have raised concerns about the fairness of the ferry service from the refuge headquarters in that only one company has a permit that allows use of the refuge. Others noted that the ferry service provides a valuable service to visitors, ensuring that the public has direct access to North Monomoy Island and Nauset/South Beach. Some noted that this ferry service was essential to accessing the lighthouse, and that much of the use at the refuge headquarters is not ferry service customers, but general public visitors.
- **Over-Sand Vehicle (OSV) Use.** There have been some problems with illegal OSV use on the refuge and in the wilderness area. This is a concern since this beach provides habitat for the federally endangered northeastern beach tiger beetles. With the February 2013 breach across Nauset/South Beach, access to South Monomoy Island by OSV is significantly hampered.

Refuge Relationship with Neighbors and Local Community—The issues that may involve refuge neighbors and the local community will be addressed through coordination and partnerships. These issues could affect daily operations and visitor experience.

- **Quitnessit Neighborhood.** Some interviewees noted issues regarding the refuge's impact on abutting properties and the Quitnessit neighborhood. Of particular concern is traffic on Tisquantum Road, noise from the refuge parking lot, the use of the refuge by sunbathers, and the commercial nature of the ferry service which operates from refuge headquarters.
- **Town of Chatham.** Some interviewees noted that the Town is the sole municipal neighbor of the refuge and, thus, this relationship should be carefully maintained and nurtured. Points mentioned are noted below.
 - Some stated that the Service does not do enough to actively keep the Town informed in order to maintain an effective working relationship.
 - Some stated that the Service has not been consistent regarding its determination on public uses, nor kept promises regarding important issues with the Town.
 - Among some interviewees, there is great unease about the presence and role of the Federal Government in a local area that prides itself on its independence and self-sufficiency.

Public Uses—Many non-priority public uses, including those listed below, are popular on Cape Cod. Both residents and summer visitors want to engage in these uses on and around the refuge. Some of these activities are not appropriate uses of a national wildlife refuge and do not contribute to the purpose of the refuge or the mission of the Refuge System, nor do they support the six priority public uses. Other activities can facilitate priority public uses. Below we provide background information on the uses we believe are most likely to be controversial. We also discuss several other non-priority uses of concern under the "Other Issues" section of this chapter.

- Commercial Services (including guide, teaching, interpretation, leading trip (e.g., natural history tours)). Many noted that this was a growing activity on the refuge. Commercial guides include guides for activities such as seal watching, surf fishing, surf fly-fishing, and sea duck hunting. Some expressed concern regarding commercial guide services that use the area, especially for commercial fly-fishing. Many of these guides come in from other states and may not feel the ownership of Monomoy felt by local residents and more regular users. Some felt guides “have no vested interest in preserving and maintaining Monomoy.” Some interviewees said guides cross from one side of the refuge to another through the grassy nesting areas of protected birds. There was concern expressed that guides, although commercial, are not regulated. Some of the commercial guiding occurs on Morris Island and not in the designated wilderness areas. There is concern by some commercial guides that our management actions will negatively affect their activities on the refuge.
- Dog Walking. Currently, only Morris Island is open to dog walking (on leash). However, some people explained that dogs are not always kept on leashes and other people expressed that dogs should be banned since they disturb the birds. The Master Plan of 1988 banned pets year-round on the Monomoy Islands and during the spring and summer on the Morris Island portion of the refuge. This latter prohibition was never visibly enforced, however. In addition, the other eastern Massachusetts refuges have already eliminated dog walking.
- Boating. Within the refuge’s Declaration of Taking boundary, there is both motorized and non-motorized boating, including standup paddleboards. A few individuals expressed concern that this boating activity has become too large, has adverse impacts for seals, and may be dangerous to those who unwisely get too close to the seals. Motorboats are normally excluded from wilderness waters but a provision in the 1970 wilderness designation allows motorized boating to continue at Monomoy NWR, with approval by the Secretary of the Interior.
- Moorings. The Town issues boat moorings in Stage Harbor. Since the Stage Harbor mooring field is rapidly filling up, there will be more demand/pressure from commercial fishermen to place moorings and store their boats in the waters on the west side of North Monomoy Island. This has already happened and is anticipated to continue. Placement of these moorings within the Declaration of Taking area would be a concern to the Service, particularly in seagrass beds.
- Kite Boarding (also known as kitesurfing). The refuge staff has observed this activity disturbing beach-nesting birds, as well as birds foraging in shallow waters.
- Personal Watercraft (wave runners and jet skis). These vessels are small and fast. They are used in shallow areas and, as with kite boarding, disturb beach-nesting, foraging, and staging birds. Interviewees stated that the NPS ban of personal water craft in the Cape Cod National Seashore has had a positive impact at the refuge, particularly in the Southway.
- Seal Watching. Most interviewees stated that this is an appropriate and positive activity on the refuge. Seal watching is a popular activity on the refuge and ferry services offer rides to view seals. Tourists like this activity more than whale watching because the ride is much shorter and not as rough, and seals can almost always be observed. However, some explained that it puts a burden on the refuge headquarters, adds to traffic and congestion, and presents problems regarding parking. A few expressed concerns that this activity has become too large and has adverse impacts for seals, and may be dangerous to those who unwisely get too close to the seals.

Other Issues

The following issues are narrower in scope or interest than the significant issues, but still in that range of opinions. We explain how we will address the following issues and concerns in chapter 3 under the sections Actions Common to all Alternatives and Actions Common to Alternatives B and C.

- Beach Sports, Grilling, and Use of Shade Tents. Interviewees noted that visitors may confuse the mission of the Cape Cod National Seashore (recreation and resource protection) with the refuge's mission of resource protection and appreciation of that resource.
- Beach Use (sunbathing and picnicking). Most of the interviewees stated that sunbathing should not be permitted since this is not an appropriate activity for a wildlife refuge, especially with so many other beaches in the vicinity where sunbathing can be accommodated.
- Kayaking. Kayakers want access from Morris Island. Use of the steep stairs at the refuge can impact other visitors using the stairs and could be unsafe. Additionally, although kayaking can support wildlife observation and photography, kayakers can also disturb seals and roosting shorebirds.
- Law Enforcement. Nearly everyone interviewed felt there were not enough law enforcement personnel to effectively regulate the refuge and its users, both at headquarters and out on the flats and islands. Some interviewees suggested further coordination with the NPS. Some noted that regular users tend to be self-policing and have informally assisted the Service in monitoring activities.
- Beachcombing. Most interviewees stated that they did not see any issues with beachcombing on the refuge. However, some noted that archaeological artifacts should be turned over to the appropriate authorities.
- Trespassing by People Engaged in Shore/Surf Fishing. Most interviewees stated that surf-fishing is an appropriate and positive activity on the refuge. Surf fishing takes place on Monomoy NWR for striped bass, blue fish, and others. Some said that although they saw no problem with the activity, there could be issues of fishermen going from one side of the island to the other and cutting through the grassy areas where birds are nesting. Fishermen and other users also cut through the salt marsh. The fishermen also often put their gear behind the closed area signs on dry sandy areas in the salt marsh so they can leave their gear for the day without its getting inundated by an incoming tide. Unfortunately, these dry elevated areas are often where oystercatchers and terns are nesting.
- Horseshoe Crab Harvesting for Biomedical Use. This activity is not allowed on the refuge based on a final compatibility determination published on May 22, 2002, which found this to be incompatible with the refuge purpose. The Service was sued and the Service prepared additional information at the request of the Court. This information was accepted and the closure on horseshoe crab harvesting remains in place. Most interviewees believed that this restriction was appropriate and handled effectively. The few who mentioned the resource noted the importance of horseshoe crabs to the lifecycle of birds and other wildlife. Support for horseshoe crab harvesting was raised by one individual at the 2005 scoping meetings in Chatham.
- Archaeology and Historic Artifacts. A few mentioned that the refuge contains numerous historic artifacts, from shipwrecks to Native American cultural resources. Some expressed concern that the Service has not adequately catalogued what we might have and does not have the personnel to police beachcombers and others from taking such finds.



Yianni Laskaris/USFWS

View from top of Monomoy Light

Issues Outside the Scope of this Analysis or Not Completely Within the Jurisdiction of the Service

- Low-flying Aircraft. Low-flying aircraft continue to be a problem on the refuge, as this activity disturbs birds and creates noise in the Monomoy Wilderness.
- Colonial Ordinance. A number of commenters, including the Town and members of the Massachusetts legislature, have asked about the applicability of the public trust doctrine and the Colonial Ordinances of 1641 and 1647, which bestow public access for free fishing (including shellfishing) and fowling on all lands below high tide. All rights to lands and waters within the Declaration of Taking, including those covered by the Colonial Ordinance, were eliminated as a result of the condemnation establishing the refuge. Federal law under the Supremacy Clause of the U.S. Constitution provides authority in maritime matters and has been recognized by the courts, including the U.S. Supreme Court. The Colonial Ordinance does not apply at Monomoy NWR.
- Visual impact. A few noted that extensive activity on Nauset/South Beach could detract from the relative isolation and wilderness experience of the refuge.
- Cape Wind Project. This project in Nantucket Sound does not involve refuge lands. The purpose of this CCP is to develop management direction for refuge lands. Additionally, the permitting of the Cape Wind project is not within the jurisdiction of refuge staff. Other divisions within the Service have responsibility for the issuance of Federal permits.